Disease and the Practices of Settlement in a Plantation Economy: Medicine and Healthcare in Darjeeling and Duars, 1860-1947

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I, Nandini Saradindu Bhattacharya, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This dissertation explores the various contexts of curative and preventive health in a particular economic zone, the tea estates of northern Bengal (Darjeeling, Duars, and the Terai) in the colonial period. The sanatorium of Darjeeling was established in the mid-nineteenth century as a European retreat from the dusty and clamorous plains of Bengal. The white/European settlement in Darjeeling encouraged tea plantations in the surrounding lands, by clearing the forests and transplanting them with tea plants and encouraging immigrant labour, demarcating enclosures, thereby rapidly creating a distinct site of economic activity in the region. When the tea plantations extended to the virgin forests in the foothills of the Himalayas, the region known as the Terai and then to the in the newly annexed (from Bhutan) plains beyond in the western Duars, the plantation economy predominated the landscape where large tea estates were interspersed with pockets of newly ploughed jute and paddy fields cultivated by tenant-sharecroppers. The processes outlined above led to a complex set of colonial enclaves. Darjeeling was conceived as a European retreat, a site of recovery for the white race in the tropics- an enclave of one kind. The tea plantations were constructed as enclaves of a different kind; flanked by villages; these were 'estates' where the labourers, overseers and the management resided in the estates in accommodations that varied according to a strict hierarchical order. Through an analysis of various archival sources including municipal and medical papers, private papers of officials and planters, publications of the tea industry, as well as contemporary medical journals this dissertation attempts to examine diseases, medical practices, and the role of the state within the dual enclaves of the hill-station and the tea plantations.

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List of Abbreviations

BMA- British Medical Association

CSTM- Calcutta School of Tropical Medicine

DPA- Dooars Planters' Association

ICS- Indian Civil Service

IMS- Indian Medical Service

ITA – Indian Tea Association

ITPA- Indian Tea Planters' Association

JLA- Jalpaiguri Labour Act

LMINA- Lady Minto Indian Nursing Association

PLA- Plantation Labour Act

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Chapter 1. Introduction:

Healthy Climates and Unhealthy Lands:

Enclaved Habitations in a Plantation Economy

1.1. Introduction: The hill station and plantations in colonial north Bengal

This dissertation is a social history of the settlement and medical practices in the tea planting districts of colonial north Bengal (1839-1947). The area comprised the administrative districts of Darjeeling and Jalpaiguri, both frontier areas with sparse population that were colonized and settled from the mid-nineteenth century. The integration of the two districts into the colonial economy initiated demographic changes, new patterns of settlement and unique habitations. The hill-station of Darjeeling was established in 1839, and the district's first tea plantations began producing commercially from 1856. Thirty years later, in 1869, the district of Jalpaiguri was formed, incorporating newly annexed areas from neighbouring Bhutan. Within these two administrative districts, Darjeeling and Jalpaiguri, there were three tea -producing regions –in official terminology known as 'tea districts'. These were Darjeeling, which comprised the hills around and below the town of Darjeeling, its foothills known as the Darjeeling Terai, and Western Duars, located in Jalpaiguri district.

The region as a whole encompassed a peculiar duality. The hill-station of Darjeeling was established as a site of health; a sanatorium town, and was used as a convalescent station for British troops in India as well as being the summer capital of Bengal. The Darjeeling Terai and beyond it, the plains of Western Duars, were on the other hand known as particularly unhealthy regions. These particularities raise important questions about public health and medical practice in the two distinct

regions- the hill station of Darjeeling and tea plantation-estates. My work will explore the imperatives of healthcare, situated within the socio- political and economic dimensions of this particular duality. These two sites, the hill-station of Darjeeling and the tea plantations, have been approached in the existing historiography separately as two different historical problematics.

The hill stations in the late nineteenth century have been described as embodying a particular aesthetic-encompassing picturesque landscape that evoked memories of an idealised English countryside. As Dane Kennedy has pointed out, British representations of the Himalayan mountains also evoked the grandeur and sublime qualities equated with the Alps.[1] The British in India sent their children to English-style boarding schools in the hill stations where they could learn English ways of life relatively uncorrupted by the native influence that was pervasive in the plains. Many officials also sent their wives to the hill stations for the duration of the 'season'. Simultaneously with being a refuge from the plains, the hill stations functioned as 'pinnacles of power'- as the capital of India during the summer. Simla and proportionately, the provincial summer capitals of Darjeeling and Ootacamund assumed an overt imperial political character.[2]

The plantation areas on the other hand have been studied in terms of commercialisation of agriculture, a process that was heightened in the context of colonization. Sugata Bose has pointed out that colonial commercialisation of agriculture and development of plantation agriculture in the northern Bengal districts of Jalpaiguri and Darjeeling was initiated by 'the kind of commercialization closely associated with increased accumulation, giving rise to expansion of

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[1] Dane Kennedy, *The Magic Mountains: Hill Stations and the British Raj*, Delhi, 1996, pp. 40-6.
[2] Ibid. pp. 161-72.

productive scale based on managerial farming or plantation agriculture'.[3] Ranajit Das Gupta in his study of the agrarian system of colonial Jalpaiguri, has examined tea plantations and the agrarian economy of the district 'within the broader dimension of colonial political economy'.[4] He traced the commercialisation of agriculture in the district, as well as the course of popular, nationalist, and communist agrarian movements in the district. which led to the rise of the communist organized agrarian tebhaga movement of 1946-7. Subhajyoti Ray has studied the socio–economic processes that accompanied the commercialization of agriculture in the entire district and the establishment of the plantation system in western Duars. Through an examination of the agrarian system of the district, he has analysed demographic changes and the transformation of a hitherto unsettled, frontier region into a settled agrarian revenue -producing region in the colonial period. This settlement was effected in the context of the marginalization of the indigenous Meches and Garos, the creation of a standardised set of agrarian rights in the land, and the appearance of sub-infeudation of rights and agrarian production, with several layers of differentiation among the peasantry. His study makes a significant departure from previous historiography by analysing labour organization in the Duars plantations in the context of free, rather than indentured labour.[5]

Another aspect of this distinctiveness of the two regions was in the different experiences of habitation by different social groups. Throughout the late nineteenth and early twentieth century, all three tracts experienced demographic change through massive immigration. In the case of the town of Darjeeling, this entailed the

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[3] Sugata Bose, *Peasant Labour and Colonial Capital: Rural Bengal Since 1770*, Cambridge, 1993, p. 41.
[4] Ranajit Das Gupta, *Economy, Society, and Politics in Bengal: Jalpaiguri 1869-1947*, Delhi, 1992, p.2.
[5] Subhajyoti Ray, *Transformations on the Bengal Frontier: Jalpaiguri, 1765-1948,* London, 2002.

establishment and rapid expansion of the hill-station. Like other hill-stations in colonial India, Darjeeling was originally meant to accommodate principally, white bodies: Europeans.

British experience in the region from the time of its incorporation into British India and its settlement was also different in the two regions. Joseph Dalton Hooker, the son of William Hooker, the Director of Kew Gardens who later succeeded his father in that position, made botanical expeditions in Sikkim and Bhutan in the eastern Himalayas in the mid-nineteenth century. During this time he was based in Darjeeling, a hill station newly built on a tract of land first leased from the Raja of Sikkim in 1839. He proclaimed Darjeeling as an excellent sanatorium for Europeans in the tropics, contrasting the rosy cheeks of European children in the hills with the pale, weak countenances of those in the hot tropical plains. Just below the Himalayan sanatorium of Darjeeling were the foothills known as the Terai; covered in forests, dank and miasmatic. A stretch of the Terai was claimed from Sikkim in 1850. Travellers to the hill-station of Darjeeling were advised to cross the Terai as quickly as possible to avoid its unhealthy miasma. When Lady Canning, wife of the Viceroy Lord Canning, stopped in the Terai for a day to paint the landscape, she contracted a fever from which she died. Just as Hooker's comment on the rosy cheeks of European children in Darjeeling was quoted countless times in all the travel guides to Darjeeling, so the incident of Lady Canning's death served as warning on the unhealthiness of the Terai to all prospective passers-by on the road to Darjeeling.[6] Next to the Terai was the Duars, a stretch of land annexed to British India from Bhutan after the war of 1865-6, and sparsely populated by the indigenous tribal population who cultivated cotton and rice and tended buffaloes. Duars too was

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[6] L.S.S. O'Malley, *Bengal District Gazetteers: Darjeeling*, Calcutta, 1907, p. 68.

a febrile land, only the Meches, its original inhabitants, were reputedly able to survive there.

At the edges of the hill-station the tea plantations expanded from the mid-nineteenth century, encouraged by government grants of land at nominal prices. The consequent settlement scheme for the entire area was therefore complex. They included the hill-station of Darjeeling, originally intended to be a European retreat from the plains; the tea estates, where large numbers of migrant labourers resided alongside the European management; and after 1850, a tract of land around Kalimpong which was settled with Nepali immigrants cultivating maize and potatoes. There was also, within the Jalpaiguri district, an older, settled tract which had formed part of the Company's territory for almost one hundred years. The newly incorporated Western Duars tract, acquired after the Anglo-Bhutan war in 1865, was the land between the rivers Torsha and the Teesta, mostly given over to tea plantations and reserved forest interspersed with villages of peasant cultivation of rice and jute. The tea estates were enclosed territories within which resided the plantation's managerial staff and workers.

Interestingly, both the hill stations and the tea plantations have been studied in the existing historiography as two different forms of colonial 'enclaves'. The hill-stations have been studied as a particularly colonial, British institution. In a study of colonial urban spaces and architecture, Anthony D. King analysed the city of New Delhi, built by the British in 1911 near the old Mughal capital, the army cantonments and the hill-stations in colonial India. He identified them as sites that reflected 'the effect of power relationships on urban structure and particularly, urban social structure, planning, race relations,' and argued that the above sites also represented, in post-colonial societies, the problematics of development and

modernisation.[7] King has pointed out that the hill station had as its reference point the eighteenth- century metropolitan resort, 'along with the ideologies, forms of activity and institutionalised behaviour' of such resorts.[8] At the same time, the hill stations represented an 'alternative site' providing their British inhabitants with an urban space distinct from the cities in the plains, and the liberty to create a particular social space for themselves that they lacked in the plains.[9]

The tea plantations have also been understood as 'enclaves' by historians. Asim Chaudhury has argued that in the district of Jalpaiguri, the tea estates in the Western Duars was particularly privileged in terms of government support for infrastructure such as roads and telegraphs, and therefore constituted 'enclaves within a peasant society'. [10] Ranajit Das Gupta has also argued that the tea plantation system which was an 'enclave economy'.[11] We need to engage closely with both these historiographical approaches to enclaves to understand the unique historical problematic of the region.

1.2. The Problematic of Enclave in Colonial India

Dane Kennedy has studied the various hill-stations of colonial India as 'places where the British endeavoured at one and the same time to engage with and to disengage from the dominion they ruled.'[12] In doing so Kennedy described the various imperial functions of the hill stations. They were initially established to keep

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[7] Anthony D. King, *Colonial Urban Development: Culture, social power and environment*, London, Henley and Boston, 1976, p. 2.
[8] Ibid, p. 161.
[9] Ibid, p. 165.
[10] Asim Chaudhury, *Enclaves in a peasant society: political economy of tea in Western Dooars in northern Bengal*, New Delhi, 1995. A similar argument has been made for the coalfields of Dhanbad in eastern India. See Dietmar Rothermund, 'The Coalfield- An Enclave in a Backward Region', in Dietmar Rothermund and D.C.Wadhwa, (ed), *Zamindars, Mines and Peasants, Studies in the History of an Indian Coalfield and its Rural Hinterland*, Delhi, 1978, pp. 1-19.
[11] Ranajit Das Gupta . *Economy, society, and politics in Bengal:Jalpaiguri1869-1947*, Delhi, 1992, p.54.
[12] Kennedy, *The Magic Mountains*, p. 1.

British troops in India away from the influence of 'zymotic' diseases that seemed unavoidable in the plains.[13] Kennedy argues that over the nineteenth century, in the absence of medical unanimity on the healthiness of all hill stations, there was a shift in British perceptions of hill stations 'from clinical assessment of climatic disease to a more socially resonant understanding of the effects of the tropics on the European'.[14]

His conclusion is that the hill stations could not be kept as exclusive sites for the British in colonial India. The Indian elite – the native princes as well as the middle classes staked a claim in the hill stations. The consequent 'intrusion of the other', also evident in the huge number of servants and minor clerks necessitated by British domestic life and civil administration, subverted the idyll of Edenic sanctuaries in the hill stations. They did not remain enclaves of white residence.

Other historians have studied particular hill stations. In her study of colonial Simla, Pamela Kanwar has also outlined the Indian presence, comprising not only the princes (who could be kept out by diplomatic means), but others (who could not) - middle class Indians who bought up the bungalows, commission agents and merchants who occupied the lower bazaar and controlled the supply of provisions to the town as well as the 'labouring classes' such as the rickshaw pullers and nightsoil men.[15] These incursions had political consequences: Kanwar has concluded that even in the quintessentially European town, the Indians- merchants, low-level clerks and labourers were to some extent politicised by the nationalist movement in the twentieth century.[16] In her study of Ootacamund in the Nilgiri hills, Judith T. Kenny has noted that 'the practice of British authority and the hill

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[13] Ibid. p. 27.
[14] Ibid. p. 30.
[15] Pamela Kanwar, *Imperial Simla: The Political Culture of the Raj,* Delhi, 1990, pp.146-189.
[16] Ibid.pp. 202-214.

station were inextricably linked'.[17] In the hill station 'social rank was closely matched with elevation'.[18] Kenny emphasised, like the authors above, that the presence of large numbers of Indians in various subordinate capacities, as well as prosperous visitors, contributed to the subversion of the idyllic European enclave of Ootacamund. She similarly concluded that after the First World War, 'growing Indian nationalism inspired by new campaigns of civil disobedience could not be ignored even in the hills'.[19] In her comparative analysis of the hill-stations of Darjeeling, Mount Abu, Simla and Darjeeling, Queeny Pradhan has pointed out that the aesthetic representation of the mountains by the British always presumed a landscape empty of people. However, the hill stations were inhabited by indigenous people as well as by immigrant labourers.[20]

Historians who have studied the tea plantations of northern Bengal have seen them as enclaves of a different kind. Situated in remote locations several miles from the nearest town, appropriating vast tracts of land leased at nominal rates from the government, the plantations were isolated habitations. Colonial plantations have generally been characterized as peripheral enclaved sites. In his study of the plantation economy of east Sumatra, Jan Breman has pointed out that its determining characteristics were 'the region's peripheral situation within the colonial domain, the rapid rise of plantation agriculture as a predominant factor and, in principle, the temporary presence of both employers and employees'.[21] The most prominent feature of the enclaves, the hegemony enjoyed by the planters, was an

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[17] Judith T. Kenny, 'Climate, Race, and Imperial Authority: The Symbolic Landscape of the British Hill Station in India', *Annals of the Association of American Geographers*, Vol.85, No. 4, (Dec.1995), pp. 694-714.
[18] Ibid, p. 706.
[19] Ibid, p. 710.
[20] Queeny Pradhan, 'Empire in the Hills: The Making of Hill Stations in Colonial India', *Studies in History*, Vol.23, No.1, 2007, pp. 33-82.
[21] Jan Breman, *Taming the coolie beast: plantation society and the colonial order in Southeast Asia*, Delhi; Oxford, 1989, p.176.

integral part of the frontier settlement zones where the plantations were located. Breman identified Ceylon, India (Nilgiris and Assam), French Indo-China, Malaya and the Philippines plantations as regions where similar plantation systems emerged in the mid to late nineteenth century. These were distinct from the 'classical plantation societies' of Latin America and the Caribbean regions. He argued that the nineteenth century plantations were characterized by large-scale immigrant labour, and 'by-passed the peasantry on whom colonial exploitation had earlier been founded'.[22]

Other scholars have offered a different perspective on the enclaved aspect of the plantations. In a study of colonial Ceylon, E. Meyer has argued that the model of the 'dualistic' economy generated by the use of the term enclave could obfuscate the many levels of interdependence between the plantations and the larger agrarian society.[23] In his study of tea plantations in north Bengal, Ranajit Das Gupta has suggested a model of 'twin-dependency' between the plantations and the larger agrarian economy, with a 'symbiotic relationship' between the plantation and peasant production sectors of the economy.[24] The 'twin –dependency' did not subvert another distinctive feature of the plantation system- the authority exercised by the planters within the system, and the enclaved aspect of the plantations evident in the restrictions on mobility, the residence of most of the labourers within the plantations, and the non-interference of the local government within the tea estates.

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[22] Ibid. p. 178.

[23] E. Meyer, ' "Enclave" Plantations, " Hemmed-in" Villages and Dualistic Representations in Colonial Ceylon, *The Journal of Peasant Studies*, Vol.19, No. 3-4, 1992, pp. 199-228.

[24] Ranajit Das Gupta, 'Exploitation of Plantation Workers, Reproduction of Labour Power and Nature of Proletarianization in North-East India', in Ranajit Das Gupta, *Labour and working class in eastern India: studies in colonial history*, Calcutta, 1994, pp. 141-174. See also by same author, 'Plantation labour in colonial India', in E. Valentine Daniel; Henry Bernstein; Tom Brass, *Plantations, Proletarians, and Peasants in Colonial Asia*, London, 1992, pp. 172-191.

I wish to suggest that this common theme of enclaves in these two different historiographical approaches in fact provides an important link between the two regions on which my study is focused. The whole region, encompassing both the hills and the plantations needs to be seen as a single entity. Its essential duality and enclaved structures contain the clue to its specific economic configuration and the logistics of its habitation. The medical history of the region has to be understood simultaneously within this duality of habitation patterns and the commonality of enclaved identity.

1.3. Enclaves and Public Health in Colonial India

Enclaves or segregated sites have been important themes explored by historians of medicine in the tropical colonies. The research into, and implementation of, tropical medicine was initially focussed on reducing mortality among European troops and civilians in these colonies. P.D. Curtin has analysed the decline in high mortality among European troops and civilians in the tropical empires from the eighteenth to the nineteenth century.[25] He pointed out that the difference was made, apart from the impact of the germ theory of Pasteur and other microbiologists in the late nineteenth century, by tropical hygiene. Tropical hygiene elicited a number of manuals which emphasised 'domestic architecture, ventilation, nutrition, and the design of a modern sewerage system' within the cantonments; the authors borrowing from 'the best practices of sanitary engineering and public hygiene in Europe'.[26] Curtin's study compares the West Indies, South India (Madras) and Algeria. He has also pointed out that in nineteenth century Britain, military hygiene was practically synonymous with tropical hygiene.

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[25] P.D. Curtin, *Death By Migration: Europe's Encounter with the Tropical World in the Nineteenth Century*, Cambridge, 1989.
[26] Ibid, p. 105.

Radhika Ramasubban has argued that the very characteristic of western medicine in colonial India was that it was limited to the enclaves that were of high priority to the preservation of imperial rule. [27] In her analysis of public health in colonial India, she argued that the dissemination of western medicine was indicative of colonial priorities. The benefits of western medicine and sanitary provisions were only fitfully applied to the greater Indian population because the chief concern of the colonial state was to preserve the health of European soldiers and civilians in the cantonments and a few urban centres. In her narrative of public health in Bengal, Kabita Ray has argued that the transfer of the pecuniary burden of controlling epidemic disease and providing medical facilities to the impoverished municipalities and district boards was indicative of a systematic neglect of public health on the part of the colonial government.[28]

While preventive policies did result in more systematic preventive health measures in the cantonments and civil lines than in other places in British India, other historians have shown that the relationship between the colonial state and public health in British India was multifarious and often tortuous. David Arnold has evoked the ambiguities of this relationship between the colonial state and public health in the western medicine framework in his study of the 'corporeality of colonization'.[29] He has examined state policies and indigenous responses to the

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[27] Radhika Ramasubban, 'Imperial health in British India, 1857-1900', in Roy Macleod and Milton Lewis (ed.), *Disease, Medicine, and Empire: Perspectives on western medicine and the experience of European expansion*, London and New York, 1988, pp. 38-60.

[28] Kabita Ray, *History of Public Health: Colonial Bengal 1921-1947*, Calcutta 1998, p. 346. Deepak Kumar has similarly emphasised the point of 'neglect' by the colonial state and the bureaucratic 'tangles' and financial constraints to the full implementation of public health policies such as vaccination against smallpox and the control of cholera in colonial India. See Deepak Kumar, 'Perceptions of Public Health: A Study in British India' in Amiya Kumar Bagchi and Krishna Soman (ed), *Maladies, Preventives and Curatives: Debates in Public Health in India*, New Delhi, 2005, pp. 44-59.

[29] David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, Berkeley, Los Angeles, London, 1994, p. 7.

management of three epidemic diseases-smallpox, cholera, and plague in colonial India. He has argued that initially small-pox vaccination policy was not simply an instrument to protect European health in India, but was intended to demonstrate the benevolence and humanity of the Company Raj to the Indian population. The focus on vaccination, which ignored indigenous cultural signifiers of small pox as well as the older established practice of variolation, was indicative of the cultural distance between the rulers and the ruled.

But cultural resistance was only part of the story. The ambivalence of medical policy and administrative commitment towards control of smallpox and cholera was also associated with the financial constraints and political expediency of the Indian empire. These constraints, and an episodic symbiosis of nationalist protest and cultural resistance were projected sharply into relief when the Bombay government sought to enforce quarantine policy during the plague epidemic in Pune at the turn of the century, a resistance that was reflected in many other parts of India including the capital, Calcutta.[30] The civil administration, imbued as they were with post-1857 anxieties, remained generally tentative in pushing unpopular sanitary agendas on the larger Indian population. This hesitancy was suspended briefly during the plague in Bombay, but re-emerged as the dominant official discourse of public medicine in India.

Mark Harrison has also noted that the constraints of political expediency and the limitations the realities of colonial administration informed medical policy in

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[30] Ibid. pp. 211-226. On the contradictory and tentative plague policies of the Bombay, Calcutta, and Punjab governments, see I. J. Catanach, 'Plague and the tensions of empire: India 1896-1918', in David Arnold (ed), *Imperial Medicine and Indigenous Societies*, Manchester and New York, 1988, pp. 149-171.

colonial India.[31] In his study of British policies and preventive medicine in the nineteenth century, Harrison has noted that the relatively marginal status of the Indian Medical Service (as compared to the Indian Civil Service) in Anglo-Indian society, the 'pervasive anti-intellectualism', and general 'institutional inertia' contributed to an active resistance on the part of its officials to medical trends from the metropolis.[32] Moreover, post-1857 anxieties continued to inform the gradualism that characterised government public health provisions, which outside of the cantonments (where they were most efficacious) were concentrated more on sanitary education and promotion of charitable dispensaries.[33] Meanwhile, when there was some devolution of power to local government after 1885, the Indian elites' lack of interest in western sanitary models undermined limited attempts to initiate rural sanitation.[34]

Arnold has pointed out the problematic of limited implementation of vaccination and sanitary measures due to a circumscribed colonial administration.[35] The impetus for sanitary reform and policy, he argued, came from the European industrial and commercial interests. In the late nineteenth century, these interests, particularly in the commercially important port of Calcutta led to a campaign for radical sanitary reforms during the plague epidemic of 1896.[36]

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[31] Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge, 1994.
[32] Ibid. pp. 34-5.
[33] Ibid. pp. 87-98.
[34] Ibid. p. 200.
[35] Arnold, *Colonizing the Body*, p.155. Harrison has also pointed out that the European commercial interests, motivated by the economic disruption caused by the plague epidemic in 1898, lobbied with the Governor of Bengal to push through the Calcutta Municipal Bill in 1899. See Harrison, *Public Health In British India*, p.221. The circumspection with which various provincial governments and local officials implemented rural vaccination has been re-emphasised in Sanjoy Bhattacharya; Mark Harrison; Michael Worboys, *Fractured states: small pox, public health and vaccination policy in British India, 1800-1947*, Hyderabad, 2005.
[36] David Arnold, 'Medical Priorities and practice in nineteenth century British India', *South Asia Research,* Vol 5, Nov.1985, pp.167-183.

Habitation and its influence on health is another significant problematic in the historiography of colonial medicine. Harrison has argued that diseases of the tropics were differentiated in terms of degree if not of kind from those in the temperate zones in the eighteenth century to the extent of being considered distinctive.[37] Monogenist influence prevailed, and this helped sustain the idea of acclimatization of white men in the tropics over several generations. Moreover, distinctions were made between healthy or unhealthy localities within the tropical regions. [38] In the nineteenth century, several factors including insecurities felt by the resident white population after the abolition of the slave trade in the West Indies, and the suspicion of and hostility towards Indians in the aftermath of 1857, influenced the hardening of perceptions of racial characteristics. Acclimatization theories were eclipsed in the nineteenth century, when it was considered that white men would either die out or become degenerate over a few generations in the tropics. [39]

1.4. Settlement and Healthcare in the Tea Plantation Economy

In examining medical discourses, settlement, habitation, and medical care in the hill station of Darjeeling and in the tea plantations of northern Bengal I aim to situate the social history of medicine of the sub-region in the context of its colonization and its political economy in the late nineteenth century. By using the concept of enclave as an analytical tool, I pose the question: what were the social and economic implications of these two different settlements on evolving medical discourses and practices? How did the coterminous enclaves of the hill station and the tea

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[37] Mark Harrison, '"The Tender Frame of Man": Disease, Climate and Racial Difference in India and the West Indies, 1760-1860', *Bulletin of the History of Medicine*, Vol.70.No.1, pp. 68-93.
[38] Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600-1850*, New Delhi, p. 123.
[39] Ibid. p. 216.

plantations within the plantation economy provide different problematics on the rhetoric and practice of medicine in colonial enclaves?

Mountain sanataria were supposedly refuges from quintessentially tropical diseases like cholera and malaria. Hence the need for British administration of mountain towns away from the plains, coyly termed 'hill stations' in the tropical colonies.[40] The irony was that it was precisely when optimism about white settlement in the tropics was eclipsed that the Indian empire was at its zenith. As Kennedy has pointed out, all the hill stations were not considered medically efficacious even for white/European bodies. Therefore they also functioned as social and political 'homelands' of the British Raj. The question here is, what were the perceived rejuvenatory properties of the hill stations for the Europeans in nineteenth and twentieth century India? What provided economic vitality to the hill station? How did medical discourses and institutions accommodate the hills-plains duality of British India in the context of Europeans suffering from disease at the hill-station? The hill stations of colonial India were conceived of as European sanatoria. The presence of natives of every class in the hill stations rendered their enclaved characteristic in doubt. How was the presence of the Bengalis accommodated in medical discourses on acclimatization and institutionally, in the sanatoria of Darjeeling? Acclimatization theories were on the wane from the mid-nineteenth century, the point at which this dissertation begins. Yet, the accommodation of Indians in Darjeeling (and possibly in other hill stations) altered medical perceptions on acclimatization. In the twentieth century, the appropriation of Darjeeling by the

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[40] Kennedy has pointed out that the nomenclature was an effort to etymologically 'tame' awesome large mountains. See Kennedy, *The Magic Mountains*, p.46.

Bengali elite was a negotiated process. This dissertation will examine aspects of that negotiation.

The tea plantations, being sites of private enterprise, presented public health problems of a different kind. They were sites where large numbers of immigrant labourers resided in coolie lines, as did the management in bungalows. Labourers, who often migrated with entire families, resided in huts generally built at one end of the tea estates. Due to their residence within the plantations and their work regime, they were more easily controlled than any other working population. Arnold has pointed out that there were sites where preventive health was implemented that were relatively free of indigenous cultural resistance; the jails and cantonments.[41]

The habitation and socio-political and economic elements that impacted preventive health in the tea plantations are yet another aspect of the problematic of the implementation of preventive health and therapeutic measures in an enclaved or segregated territory. Situated in remote territory, with only the plantation doctor and dispensary or the medicine-box of the planter as therapeutic aids, the plantations in the twentieth century were also sites of specialized medical research particularly in hookworm, kala azar and malaria. With a crucial difference from other enclaved habitation; the plantations were sites of private enterprise. Government intervention and public health policies within the plantations was limited and always under negotiation. Managerial and occasionally official discourse posited that the aim of rationalized productivity of labour led to greater investment for medical therapeutics as well as research within the plantations, which were supposedly far superior to the healthcare available in the rural areas. However, a history of public health policies within the plantations requires an examination of the structure and exigencies of the

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[41] Arnold, *Colonizing the Body*, p. 61.

plantation economy and its specific medical imperatives. I have attempted to situate the relationship of the plantation estates with the colonial state and with the sites of peasant agricultural production outside the boundaries of the tea estates. The question I have asked here is, how did the tea estates negotiate medical practice and preventive health in the tea estates vis a vis the areas of peasant production with which they had a 'symbiotic' relationship, and how did the colonial state mediate such negotiation? This leads to the question of the logistics of the plantation economy; what the structure of the medical economy of the tea plantations?

Another problematic for the medical history of plantation enclaves is their function as sites of experimentation in tropical medicine. Arnold has argued that it was the colonial enclaves of jails and barracks that represented the clearest triumphs of western medicine in colonial India, being the sites where this medicine could be practised relatively independently; without the cultural and political constraints that characterised its reception in civilian society in India. Simultaneously, the sites of the jails or the army barracks and the cantonments came to be, in Anglo –Indian medical perception and to some extent in official policy, representative of the patterns that might occur at other sites of indigenous health and disease. Their inmates replicated, in their persons, the prototype of the Indian physique (at least, that of the Indian labouring classes) as demonstrated, examined, and articulated upon in the jails or the barracks.[42]

At the same time, particularly from the inter-war years, the plantations were also used by researchers on various aspects of tropical medicine - both for entrepreneurial patronage and as sites where experiments in medical research could be conducted. In the inter-war years a great deal of research on hookworm and

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[42] Arnold, *Colonizing the Body*, p. 114.

malaria as well as nutritional deficiencies used the tea plantations for study. Arnold has pointed out that the 'perceived importance of India as a scientific laboratory' was prevalent for more than a century before tropical medicine was established.[43] But it acquired new aspects with the institutionalisation of tropical medicine in the twentieth century, and the plantations and other industrial locations became identified as sites which would have to minimise the occurrence of disease to generate productive labour.

Tropical medicine research in the area had two distinct trends- firstly, researches on hookworm or nutritional diseases, reproductive health, focussing on the physique of the plantation labourers. Secondly, the ecology and environment of the area provided a site for research on malaria studies. The particular perception of India as a unique disease environment persisted long after the discoveries of Pasteur and Koch. In the nineteenth century the Darjeeling Terai and Duars were perceived as febrile terrain; in the twentieth century a great deal of malaria research was conducted in the tea Terai and Duars. To what extent did the particular location and ecology of the hill station and the plantations contribute to the knowledge of tropical medicine? The political economy of tropical medicine and the particular location of the plantations have not been explored in historiography. This dissertation makes a case for the examination of medical research in terms of the political economy.

This dissertation will attempt to understand the settlement, disease environment, and medical practices in the newly colonized tea districts of Darjeeling, Terai and Duars by exploring the questions outlined above. I have used government archives, papers of planters' associations, as well as the private papers and memoirs of several

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[43] David Arnold, 'The discovery of malnutrition and diet in colonial India', *Indian Economic and Social History Review*, Vol.31, No.1, 1994, pp. 1-26.

planters in the nineteenth and twentieth centuries, to write a social history of medical policies and practices in the colonial enclaves of northern Bengal.

The government records, both published and unpublished, are a reliable guide to the extent and nature of the interest of the state and government at various levels, in medicine and healthcare in the region. They include the Medical, Sanitation, Local Self-Government and Municipal series of the Bengal Government (1861-1937) and the Medical Department series of Government of India (1900-37). Government archival sources also include relevant War Office papers from the National Archives. The government's intervention in the plantations occurred only at moments of crisis, when the problems of preventive health in the plantations threatened to destabilise the district as a whole. At such moments, the Government of India appointed commissions to investigate healthcare and sanitation in the plantations, and several such reports were published successively during the period, and have proved useful. Routine government records, such as the annual reports of the Sanitary Commissioner of Bengal (1869-1920) and subsequently the Director of Public Health, Bengal (1920-40) contain generalised vital statistics for entire districts or the province as a whole, but provide little information on specific areas. Institutional records such as those of the Calcutta School of Tropical Medicine, have also been used.

The planters, who formed associations to protect their interests and to negotiate with the government for special privileges within a few years of the establishment of tea plantations, published annual reports and archived a great volume of correspondence. Both the Duars Planters' Association and the Indian Tea Association published annual 'year-books', which included correspondence and proceedings of annual and monthly meetings. The Indian Tea Planters' Association

and the Terai Planters' Association did not print or archive their correspondence; however they published a synoptic view of their histories in the form of cyclostyled souvenirs which are made available at their respective offices. The institutionalisation of western medicine in India and the rise of tropical medicine as a scientific discipline occasioned medical journals and publications. I have used selected contemporary medical journals published in India and in Britain, such as the *Indian Medical Gazette*, *Indian Medical Record*, *Indian Journal of Medical Research*, as well as the *British Medical Journal* and *Lancet*. I have also used contemporary scientific journals such as the *Journal of the Agri-Horticultural Society* and the *Journal of the Darjeeling Natural History Society*. Several planters in Darjeeling Terai and Duars published their personal memoirs; such are the accounts of W.M. Fraser, John Symington, David Fletcher, B.C.Ghose as well as Jennifer Fox, who was not a planter herself but from a planting family. Some families preserved correspondence; the Wernicke, Webb, Verner, and Story family correspondence in the India Office Collections have proved very useful. I have also used two contemporary periodicals, the *The Bengalee* and the *Indian Planters Gazette and Sporting News*. In my field trips to the Darjeeling, Terai and Duars I recorded several interviews with Indian planters and doctors, which were generally rather than specifically useful. I met and talked to tea workers, including *bhagats* (tribal spirit-ousters) and managers as well as doctors, nurses, and compounders in two tea estates -the Hasimara Tea Estate and the Banarhat Tea Estate in Duars and in the Pahargoomia Tea Estate in the Terai. Besides, I interviewed the medical officer involved in a UNDP project on family planning in several tea estates under the Dooars Branch of Indian Tea Association, Binnaguri. My experiences in the field were marked by political turmoil in the region in the context of the recent lock-

outs and consequent impoverishment in the tea estates of northern Bengal. Although my understanding of the tea workers and their daily work and lives was immensely enriched through the meetings and interviews, the material collected through them would be appropriate in a study with a more contemporary bias.[44] In this dissertation I have used only one interview.

One obvious gap in the sources therefore is the workers' perspective. Some historians have combined oral history and archival sources to recreate aspects of working lives from the perspectives of the workers.[45] Due to the reason enumerated above, I have not used oral interviews with tea workers in this dissertation. The documentation of workers' lives has also been based on trade union sources. The unionisation of tea workers in the Darjeeling and Duars did not begin until the 1940s. Although this story ends immediately after Indian Independence in 1947, the main problematics of this work end before World War II. The War and its aftermath brought about fundamental changes to the character of the hill station as well as to the methods and logistics of healthcare in the plantations. I have examined the narrative until immediately after Independence to emphasise the continuities and analyse some of the discontinuities in the structures medical practices in the hill station and the plantations.

Chapter Two examines the establishment of the sanatorium of Darjeeling, and of the medical debates regarding its suitability as a health resort for Europeans in India. It explores the question, what was the content of white /European settlement in

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[44] Piya Chatterjee has used a combination of oral history and archival documents to highlight historical as well as contemporary dimensions of the patterns of women's work, daily lives, and protest movements in Piya Chatterjee, *A Time for Tea: Women, Labor, And Post/Colonial Politics On An Indian Plantation*, Durham and London, 2001. Although it is rich in anecdotes and accounts of the daily lives of women tea workers, Chatterjee's narrative strategy does not succeed in analysing the nature and character of the changes in the lives of the women she has lived with and studied from the colonial period to the present.

[45] Das Gupta, *Economy, society, and politics*; Chitra Joshi, *Lost Worlds*: *Indian Labour and its Forgotten Histories* Delhi, 2004.

Darjeeling? Chapter Three maps the political economy of tea in the Darjeeling, Duars and Terai region. Although the Darjeeling, the Duars and the Terai were distinct in terms of medical topography, Darjeeling being a health resort and the Terai and the Duars infamous for their fevers, their settlement followed similar trajectories- that of the establishment of a plantation economy. The duality of the healthy/unhealthy landscapes was therefore encompassed in the harmony of the political economy of tea. It next examines the context of medical care in the pioneering years. These years were staggered in the region; in the eastern parts of Duars, new plantations were laid out as late as in the nineteen twenties. Though chronologically distanced, I argue that the contexts of medical care in the pioneering years were similar in all the tea plantations and the principles on which the system of medical care was set out in the initial years continued and were gradually institutionalised. Chapter Four examines a moment of crisis for the system of medical care in the plantations, when two successive reports were commissioned to investigate the occurrence of disease within the Duars tea plantations. While one report endorsed intervention by the state not only in the control of epidemic disease but also in the economic and sanitary provisions for the labourers, the alternative report reposed greater faith in the in the paternalistic system of economic and medical care within the plantations. Chapter Five examines the relationship of the plantation enclave with the villages outside, and the role of the colonial state in sustaining a distinction between the supposedly sanitary tea estates and the unsanitary villages outside them. It analyses the constraints on the development of medical infrastructure in the plantations, and attributes them to the structure of the plantation economy. Chapter Six focuses on the medical debates and therapeutic and preventive policies concerning two particular, related diseases- malaria and

blackwater fever, both diseases being linked inextricably with the Duars and Terai regions. It analyses the ways in which the plantations provided sites for experimentation in tropical medicine and asks the question, to what extent did the plantation system structurally impinge on the implementation of research in tropical medicine within the plantations. It argues further that a distinction is to be made between research in tropical medicine and the implementation of that research, the latter being linked to the structure of the plantation economy. Chapter Seven moves back to the town of Darjeeling and analyses the Indian, mainly Bengali elites' increasing appropriation of the town in the colonial period. Finally, it analyses the survival of Darjeeling as a site of special privilege so far as health care, municipalities as well as sanitation were concerned.

Chapter 2

The Sanatorium of Darjeeling: European health in a tropical Enclave

2.1. Introduction - Empire in the tropics, Recess in the 'Hills': the hill-plains dichotomy in colonial India

The establishment, evolution and historical trajectory of hill stations in colonial India has been seen as being determined by racial distinctions and a value system which favoured the hills over the plains.[1] The explorations in the Himalayas, the slow but sure penetration of British influence in the areas bordering the mountains on the north, north-east and the north west of India took place in the first two decades of the nineteenth century. This gave a fresh relevance to the question of the long-term prospect for white men in India.

From the mid- nineteenth century the hill station was established as one of the many requisites of the colonial administration. As Kennedy has pointed out, the nomenclature was deceptive. Most of the stations were located not on hills, but on high mountains, usually from 4000 to 6000 feet above the sea level. Such were the hills stations of Simla, Mussoorie, Landour, and Darjeeling. Like many other colonial institutions the hill-station developed multiple nuances and spread geographically. For instance, the Bombay Government, lacking access to high mountains, resorted to various hill tops in the Mahabaleshwar over the relatively

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[1] Dane Kennedy, *The Magic Mountains: Hill Stations and the British Raj*, Delhi, 1996, pp.1-14, Anthony D. King, *Colonial Urban Development: Culture, social power and environment*, London, Henley and Boston, 1976, pp.165-76. See also Judith T. Kenny, 'Climate, Race, and Imperial Authority: The Symbolic Landscape of the British Hill Station in India', *Annals of the Association of American Geographers*, Vol.85, No. 4, (Dec.1995), pp.694-714, and Queeny Pradhan, 'Empire in the Hills: The Making of Hill Stations in Colonial India', *Studies in History*, Vol.23, No.1, 2007, pp.33-82.

modest Satpura and Aravalli ranges where several hill stations sprang up to accommodate a seasonal population. Similarly Ootacamund in the Nilgiri range emerged as a notable hill station in southern India. The nomenclature was an attempt etymologically to tame the lofty mountains.[2] The hill station thus was a peculiarly colonial phenomenon; and not limited to India. The British built hill stations in other tropical colonies such as Ceylon and the Malay Straits- in fact the earliest 'hill station' was at Penang in Malaya, which was occupied by the EEICo in 1786 and by the early 1800s served as a site for recuperation for civil and military officials.[3]

Harrison has argued that the eighteenth century represented an era of optimism about acclimatization and that it had been generally a period when racial categorizations had not assumed absolute rigidity.[4] This gave way to a hardening of British attitudes regarding race in the nineteenth century when the British viewed themselves as exotica in a foreign soil. The hill stations, on the other hand, at least provided one means of establishing more comfortable, familiar surroundings for the British in the tropics: their climate was not tropical.[5] Hence the logic of the development of hill stations in India was their climatic opposition to the plains.

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[2] Kennedy, *The Magic Mountains*, pp. 46-7.

[3] S. Robert Aiken, 'Early Penang Hill Station', *Geographical Review,* vol. 77, No 4, 1987, pp. 421-439.

[4] Mark Harrison, '"The Tender Frame of Man": Disease, Climate, and Racial Difference in India and the West Indies, 1760-1860', *Bulletin of the History of Medicine*, Vol.70, 1996, pp. 68-93.

[5] Mark Harrison has further argued that until the nineteenth century European medical perceptions regarded India's difference with Europe, in climate as well as in civilizational terms, as one of degree rather than of kind. See Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600-1850*, New Delhi, p. 119. Arnold has also argued that there was ambivalence regarding the recognition in European scientific and travel accounts of India's topography as 'tropical' and that such a recognition was a historical process that continued to the mid-nineteenth century. David Arnold, *The Tropics and the Traveling Gaze: India, Landscape, and Science 1800-1856*, Delhi, 2005, pp. 110-42.

The topic of the Europeans' survival in the tropics had engaged medical discourses both in the UK and India in the seventeenth as well as the eighteenth centuries.[6] By the third decade of the nineteenth century the acclimatization theories had been eclipsed and there were serious doubts about the survival of the Englishman in India over a few generations. The contrast between the disease ridden, crowded, unsanitary plains and the pure and healthy air of the 'hills' thus came to be a familiar trope of official as well as medical discourses in colonial India. Hill stations were now built in earnest both for European civilians and for the European component of the British army in India. The numbers of European troops in India increased under the drastically changed concerns after the revolt of 1857 and this lent greater urgency to the problem of high mortality among European troops in the tropics. As Harrison has pointed out, there is an element of paradox in the fact that it was precisely at the period when there were increasing doubts about the survival of the European races in the tropics that the expansion of the British empire in India was at its zenith. Though they were located at diverse sites, there were some commonalities among the hill stations; they were invariably perched on elevated areas, usually they were to begin with very sparsely populated; and their climate, the local flora and fauna, and the resident population were all uniquely different from the surrounding plains. Their relatively sparse populations were distinct in customs and habitat from the peoples of the plains. Though their flora and fauna were often unique, they provided sites conducive to the growth of flora from colder climates. And most importantly, they promised the space for an alternative world where the

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[6] The point has been made by David Arnold, 'Introduction', in David Arnold, (ed) *Warm Climates and Western Medicine: The Emergence of Tropical Medicine,1500-1900.* Amsterdam 1996, pp. 1-19.

European (as a racial category) could feel comfortable and the Englishman recreate in some measure the cosy, even intimate, atmosphere of home.

This chapter re-examines the view of the hill-station of Darjeeling as a healthy site for the rejuvenation of European bodies. That the hill stations were not inhabited solely by Europeans is evident from the population statistics of any hill –station. Kennedy has argued that the breach of the hill stations as exclusive racial, cultural and ecological enclaves where colonial officialdom retired every summer occurred because of the nature of the bureaucracy itself, which demanded the services of several layers of subordinates who by their very presence disrupted the concept of an exclusive enclave.[7] This chapter, however, argues that the very idea of a place away from the tropics was impossible to sustain in colonial hill-station of Darjeeling; the enclave was not so much disrupted by gradual inclusions as it was a paradox from the very beginning.

2.2. Darjeeling and the growth of a hill station

Like most other hill stations in colonial India Darjeeling was originally intended as a retreat for Europeans weary of the hot and dusty Indian plains. But what was the reason behind the rise and growth of Darjeeling? What was its economic viability? With minor differences of a regional character, is it true that Darjeeling was just one of many hill stations and European retreats such as Simla or Ootacamund, or were other factors involved in the demographic developments of the Darjeeling hill areas? I do not intend to argue here for just regional specificity or to claim that the establishment of hill stations in nineteenth- century India did not take any patterns. Rather, I intend to stress that Darjeeling represented one significant example in the settlement of hill areas of the mountains in colonial India. This was a complex story

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[7] Ibid.

that involved medical discourses, military strategies, and the overall context of colonial politics and economy. To be able to 'frame' the medical landscape of Darjeeling it is essential to accommodate all of the above in the history of the Darjeeling hills.[8] Harrison has argued that medical topographies of the hill stations were articulated in order to locate areas suitable for the rejuvenation of the Europeans in contemporary India. I intend to demonstrate that there were enough discrepancies and inconsistencies in the medical discourses on the efficacy of Darjeeling to contend that, while it was to sustain a value in medical terms for European constitutions, its rapid growth and symbolic value owed a good deal to spaces that were other than medical.

The area of Darjeeling and indeed the tracts where most of the Himalayan hill stations were located had been part of the growing Gorkha kingdom of Nepal in the late eighteenth century. From the late eighteenth century the Gorkha kingdom, formerly a small principality in Nepal, had militarised itself and taken over the more prosperous kingdoms in the Kathmandu valley.[9] It next eyed the Himalayan principalities of Kumaon, Garhwal and Sikkim. The rapid conquest of the hill principalities in Garhwal and of Kumaon, as well as British ambitions in the trans-Tibetan trade which would have to pass through Nepal, put Nepal into direct conflict with the EEI Company.[10] The consequence was a bloody war that took two years for the Company's army to decisively defeat Nepal. Under the treaty of

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[8] The notion of 'frame' has been borrowed from Charles Rosenberg, 'Introduction', in *Framing Disease: Illness, Society, and History* in Charles E. Rosenberg. and Janet Golden, *Framing Disease: Studies in Cultural History,* Rutgers, 1992, pp. xiii-xxvi. I have used his understanding of frame as "the connection between biological event, its perception by patient and practitioner, and the collective effort to make cognitive and policy sense of this perception" and modified it to situate the site of Darjeeling in official discourses, which were implicated in a grid of imperatives not all of which were medical.

[9] Kumar Pradhan, *The Gorkha Conquests: The Process and Consequences of the Unification of Nepal, with particular reference to Eastern Nepal*, Calcutta, 1991, pp. 89-105.

[10] D.R. Regmi, *Modern Nepal: Rise and Growth in the Eighteenth Century*, Calcutta, 1975, pp.332-417.

Sagauli (1816) between India and Nepal, a large section of the western Himalayan terai was taken from Nepal and annexed by the East India Company.[11] This was the tract where Mussorrie and Simla were later built. The area of Darjeeling, further, under a separate agreement (Treaty of Titalya, 1817) was given over to the king of Sikkim as part of the ring- fence policy, to create a buffer state between Nepal and India.[12]

Captain G A Lloyd and J.W. Grant, the Commercial Resident at Maldah in northern Bengal visited the area to settle certain border disputes between Nepal and Sikkim. Later they arrived at Chongtung near Darjeeling and first thought of a sanatorium at the site in 1828.[13] In 1829 Capt J. D. Herbert, Deputy Surveyor General, was sent to the site to explore possibilities for the establishment of a sanatorium for the use of European troops in India. His report was wholly favourable to the institution of a sanatorium. His first assumption was to link health with climate: ' The first point to be considered in the establishment of a station of health is obviously climate'.[14]

Moreover, the access to the mountains had to be considered. New roads up the slopes would have to be constructed, the supply lines from the plains to the steep mountains maintained. To that end it was also essential to have permanent and settled British ruled administrative centres relatively close at hand. Herbert found Darjeeling more conveniently situated than many of the other hill stations:

> To give a better idea of the nature of the approach to Dargeeling, I would say that it is very nearly as promising as that to Semla, it is much more so

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[11] John Pemble, *The Invasion of Nepal: John Company at War*, Oxford, 1971, pp. 344-348.

[12] For British policy in the princely states of colonial India, see Michael Fisher, *Indirect Rule in India: Residents and the Residency System-1764-1857,* Oxford University Press, 1998. For a brief overview of British recruitment of various Nepali communities in Darjeeling, see Atis Dasgupta, 'Ethnic Problems and Movements for Autonomy in Darjeeling', *Social Scientist*, Vol. 27, No.11/12.(Nov.-Dec.,1999), pp. 47-68.

[13] E.C.Dozey, *A Concise History of The Darjeeling District with a Complete Itinerary of Tours In Sikkim and the District*, (Second Edition), Calcutta , 1922, p.2-3.

[14] *Report on Dargeeling, A Place In the Sikkim Mountains, Proposed As a Sanitarium, or Station of Health.* Calcutta 1830, p. 3.

> than that to Dehra, and between it and the Almorah one, there can be no comparison whatsoever, as the most unpractised eye would pronounce the latter to be dangerous [15]

He suggested that maintaining supply lines would not be a difficult problem because nearby at Malda and Dinajpur, 'Europeans reside all the year round'.[16] He concluded that Darjeeling would be a convenient location for the troops in northern India, particularly those stationed below Allahabad.[17] Thus his report reassured officials that the three 'principal considerations which are to be regarded in the establishment of a sanitarium, viz. climate, salubrity of approaches and convenience of situation' were all favourable to Darjeeling.[18]

In 1835 Capt Lloyd was deputed to negotiate with the king of Sikkim for the cession of the land on which the sanatorium of Darjeeling was to be situated. Though 'unreasonable' initially, the king finally gave in and leased the ceded the area in 1835 for an annual payment of Rs 3000.[19] The lease was probably forced by Lloyd who in the true tradition of the man in the field did not wait for instructions from the Governor General before pushing for and obtaining the lease.[20] There were supposed to be around a hundred inhabitants at the site, who were mainly Lepchas.[21]

In 1839 the newly posted Army Medical Officer of Darjeeling, J.T. Pearson, made the journey up through the Terai to Darjeeling with an entourage of fifty coolies. At that time there was one road laid out, and allotments being made for houses or hotels. [22] The administrative buildings were at the planning stage, as was planning

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[15] *Report on Dargeeling,* p. 6.
[16] Ibid.
[17] Ibid. p. 7.
[18] Ibid. p.8.
[19] Joseph Dalton Hooker, *Himalayan Journals: Notes of a Naturalist in Bengal Sikkim and Nepal Himalayas Etc.*, New Delhi, (Reprint 1999, First published 1854) Vol. 1, p. 110.
[20] Fred Pinn, *The Road of Destiny: Darjeeling Letters1839,* Calcutta 1996, pp. 119-129.
[21] L.S.S. O'Malley, *Bengal District Gazetteer:Darjeeling*, Calcutta 1907, p. 22.
[22] J. T. Pearson, *Note on Darjeeling,* Darjeeling, 1839, p.13.

for the Indian traders and service providers who would have to be accommodated to serve the native coolies and domestic servants, and Pearson noted that: ' Mr Perrie has established a moodie, who has opened a shop for grain, and other articles of native consumption but the prices are frightfully high.'[23]

After Lloyd had successfully secured the lease and organized the labour for building the road to Darjeeling, the government replaced him with another official, Archibald Campbell.[24] In 1839 Surgeon Major Campbell then serving in Nepal as the Assistant Resident, was posted to Darjeeling when the Residency in Kathmandu was abolished. He was vested with wide-ranging fiscal, civil and judicial powers. For the next twenty-two years Campbell served as the Superintendent of Darjeeling and oversaw its settlement and steady expansion.[25]

2.3. Campbell's Darjeeling: Local initiatives and British administration

Archibald Campbell, a post- graduate surgeon from Edinburgh, had joined the EEIC in 1827. After a few years at Landour, he was posted to Kathmandu in 1836.[26] Campbell served for eight years in Nepal, the last three of them as Acting Resident, before he was deputed to Darjeeling. He had, along with Brian Hodgson, the resident at Nepal, been a keen Orientalist as well as naturalist. Like most old India hands, his local knowledge included knowledge of local flora and fauna as well as the inhabitants of the region. The British residency at Kathmandu had an uneasy relationship with the Court, but Campbell used his local knowledge to good effect and wrote several papers on the economic, social and cultural aspects of the country

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[23] Ibid.
[24] Pinn, *The Road of Destiny*, pp. 174-175.
[25] R.D. O'Brien, *Darjeeling: The Sanitarium of Bengal , And Its Surroundings,* Calcutta 1883, pp.14-15.
[26] *Memorandum of the services of Dr A. Campbell, Bengal Medical Services, Supt of Darjeeling, and in charge of Political relations with Sikim, with official notices of the same, and a List of Papers on Statistical and other subjects contributed by him, and published in India, from 1833 to 1855,* Asia, Pacific and Africa Collections, British Library, London (Henceforth APAC), p.1.

and of the inhabitants of Nepal during his tenure. This knowledge would serve him later when he developed the town of Darjeeling by encouraging Nepali immigration. During his tenure at Kathmandu he also mediated successfully in border disputes between Nepal, Sikkim and Bhutan, which probably provided him with an understanding of the strategic value of Darjeeling to British India. His medical expertise was perceived to have made 'progress within the last four years in conquering Nipalese prejudices, by means of medical skill and kindness'.[27]

There was something of the idea of the 'man in the field'- a recurrent theme in Anglo-Indian official discourses- that can be identified with Campbell's assumption of the superintendentship of Darjeeling. The idea had been in use particularly with respect to indirect rule by the residents in the native states of colonial India. The innovations and the relative autonomy of the 'man in the field', imbued, it has been assumed, with an Orientalist (not in the sense that it has been used by Edward Said[28], but in the nineteenth century sense) understanding of and sensitivity towards the particular state where the official was posted (usually remote and far-flung), the lay of its land, the peculiarities of its social ethos and political configurations and its cultural heritage, as well as with often an Utilitarian sense of its development.[29] The Orientalists and Utilitarians among the administrators and policy makers in Britain and India had differing perspectives on the modes of governance in British India.[30] Both were accommodated in the colonial administration often simultaneously, and achieved, with remarkable success, the preservation of British suzerainty in colonial India. In Darjeeling, a town that was deliberately populated after the British

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[27] *The Journal of the Anthropological Institute of Great Britain and Ireland,* Vol .7, (1878), p. 382.
[28] Edward Said, *Orientalism*, London, 1995.
[29] Ian Copland, *The British Raj and the Indian Princes :Paramountcy in Western India;1857-1930* London, 1982, pp. 305-6.
[30] Eric Stokes, *The English Utilitarians and India,* Oxford,1959.

interests there were secured, the role of the 'man in the field' was crucial in shaping the character of the town. Campbell's enterprise and vision contributed, as well, to the eventual integration of the Darjeeling hill area in the commercial and strategic interests of the Bengal and Darjeeling's identification with the military interest and medical security of British policy in India. His close knowledge of Nepali customs, the trust that he had gained through the practice of medicine in his years at Nepal and his vision of the possibilities of Darjeeling played a very important role in the area in the next twenty two years. His local, botanical knowledge (his friendship with Joseph Hooker and their correspondence strengthened his empirical knowledge), and experimental planting of all kinds of flora experimentally in Darjeeling, was crucial to the establishment of the tea industry in the region.

Campbell's first task on becoming Superintendent was to attend to the construction of the basic administrative infrastructure. In the next ten years allotments of land were made to private individuals, and a convalescent depot for the European troops was constructed at Jalapahar. Around the nucleus of church, bazaar and a few houses the hill station gradually came to be well known and often frequented by seasonal visitors. In 1845, the public buildings listed were the Superintendent's *Cutcherry*, described as a neat bungalow, a church built by Captain Bishop, two hotels, and some thirty private houses.[31]

At least initially, Darjeeling seems to have been something of a frontier zone offering opportunities to enterprising Europeans. One such were the Wernicke – Stolke family, who had initially arrived in 1841 as Moravian missionaries.[32] There had been three families in all – the Wernickes, the Stolkes and the Treutlers. They

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[31] *The Dorjeeling Guide; including a description of the country, and of its CLIMATE, SOIL AND PRODUCTIONS with Travelling Directions etc.*, Calcutta 1845, p.43.

[32] Typescript titled 'TheWernicke – Stolke Story', Mss Photo Eur 421, (APAC), p. 4.

established their mission at Tukvar, a few miles below the town. After three years they were informed that their mission would have to close down for lack of money. As one of the Wernicke grandsons remarked,

> It was fortunate for them that the time and place afforded opportunities to seek livelihood in other directions. The development of Darjeeling as a hill station, sanatorium and cantonment offered chances for anyone with initiative and courage of providing some of those things essential to the opening up of a new town, the building of roads, houses, etc [33]

Johann Andreas Wernicke, after his mission shut down engaged in contract work for the government in Darjeeling. The work involved supplying timber to the government from the nearby forests. He also engaged in providing bricks for building construction from his own brick kilns. He and the Stolke family found reasons to stay on in the fast growing town. Wernicke next went on to build several shops in the bazaar of the town having received contracts from the government. He was later on given land in the Darjeeling town itself; 'At this time....the East India Company were ready to make grants of land to persons who were willing and capable of helping in the development of Darjeeling as a station.'[34]

On this land Wernicke built three bungalows for himself and his growing family. Later on, when gout and advancing years restricted his construction activities, he set up a general store to provide groceries and sundry other items of use to the European residents of the now bustling town. Three of his sons went into the flourishing tea industry in the 1870s. After relatively modest beginnings-the eldest of them had begun work as a clerk in the Superintendent's office at the age of fifteen-in twenty years the family owned several tea gardens in the Darjeeling area. They also owned several buildings in the town- in fact a part of an entire street is

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[33] Ibid.
[34] Ibid.

supposed to have been owned by the family at one point of time. At the time of his death Johann Wernicke was an honoured member of the European fraternity of Darjeeling. His grandson Frank, was sent 'home' to England where he and his siblings received an expensive public school education.[35] Later he came back to India and joined the Indian Medical Service.[36]

Frank commented on the extraordinary rise in the fortunes of the family, which had achieved:

> such success as they could never have dreamt of, so that these sons of poor stranded German missionaries were able to send their own children to England and have them educated at well known public schools...and enable them to enjoy so many things, which their father and mother had never known or thought possible in those days...[37]

Thus within a decade of the attainment of the lease, Darjeeling was fast growing town with opportunities for enterprise and commerce, ready to receive the European convalescents. When the botanist Joseph Dalton Hooker visited in 1848 he found it a pleasant hill station with a small resident European population, which attracted several seasonal visitors. He could at the end of a eventful two –year visit compare the growth of Darjeeling to an Australian colony; 'not only in amount of building, but in the accession of native families from the surrounding countries.'[38] While it was evidently already proving popular with Europeans who needed to convalesce, the efforts of Campbell further established its position as a trading centre for the people of the surrounding areas:

> At the former period there was no trade whatsoever; there is now a very considerable one, in musk, salt, gold dust, borax, soda, woollen cloths, and especially in ponies, ...The trade has been greatly increased by the annual fair which Dr Campbell has established at the foot of the hills, to which

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[35] Ibid.
[36] D.G.Crawford, *Roll of the Indian Medical Service 1615-1930,* London, 1986, p. 538.
[37] 'The Wernicke-Stolke Story, p. 11.
[38] Hooker, *Himalayan Journals,* Volume 1, pp. 108-109.

> many thousands of natives flock from all quarters, and which exercises a most beneficial influence throughout the neighbouring territories. At this, prizes are given for agricultural implements and produce, stock, etc, by the originator and a few friends, a measure attended with eminent success.[39]

The establishment of Darjeeling, the colonization and the settlement of the entire area, and the expansion of its trade was achieved through a constant poaching of territories from Sikkim and Bhutan. This was formed part of the strategy of securing the border with its supposedly recalcitrant neighbours. The first annexation was from Sikkim.

During his visit, Hooker went on several botanising trips in the eastern Himalayas, to the borders of Sikim and Tibet.[40] Consent for his expeditions was reluctantly forthcoming, and in one of the expeditions in Sikkim he and Campbell were held hostages by a faction of the Sikkim court, the Diwan or the chief minister of the aged king. Apparently the move was to draw the attention of the British government to long-standing grievances of the Sikkim *durbar*, including refuge granted to runaway slaves and peasants in British Darjeeling. Their six week captivity ended when the British government sent extra troops to Darjeeling and threatened an invasion. The entire episode resulted in cession of the annual payment of Rs 6000 (it had been doubled from Rs 3000 in 1846) to the Sikkim Rajah, and the annexation of the Sikkim Terai and the southern territories of Sikkim that would 'confine the Raja to the mountainous hinterland, and to cut off all access to the plains except through British territory' and the annexation of around 640 square miles to British

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[39] Ibid p. 109.

[40] Hooker recorded his experiences in the *Himalayan Journals*, published in two volumes, which is comprised partly of descriptions with botanical illustrations and is simultaneously a travel narrative. Arnold has argued that the *Himalayan Journal* represented India, particularly the eastern Himalayas, as a decisively tropical region, despite the variations in temperature and the existence of fauna of typically found in temperate regions in the area. See Arnold, *The Tropics and the Traveling Gaze*, pp.199-201.

territory at the frontier[41]. In 1860-61 following further minor battles with Sikkim the British sent a small force of two thousand men and two howitzer guns to force a treaty. In consequence the old Raja abdicated in favour of his son, the Diwan was banished permanently, Sikkim's forts were razed and an indemnity claimed by the British, and the new treaty 'guaranteed the opening out of the country to trade, and the removal of all restrictions on travellers and merchants, ... fixed the minimum rates of transit duties to be levied on good between British India and Tibet'.[42]

In the years after, the efforts of Campbell resulted in making the area (through Kalimpong) the centre of the trans-Tibet trade and also encouraged immigration from Nepal.[43] In 1866 the British territories in the Darjeeling hills area were further expanded by the annexation of Kalimpong from the King of Bhutan. The Anglo-Bhutan war too was occasioned by 'lawlessness' in Bhutan and periodic raids from the Bhutan frontiers.[44]

We have seen above the military, strategic and commercial background of the gradual British annexations into the area that finally formed the district of Darjeeling. This was not only the site of the idyllic retreat of an Edenic sanctuary

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[41] O'Malley, *Darjeeling,* pp.29-31. See also Dozey, *A Concise History of the Darjeeling District,* p.4. The British had their sympathisers and allies at the Sikkim court. During an earlier visit to Sikkim in a meeting with the Raja their interpreter was Tchebu Lama, the 'a devoted servant of the King and the heir apparent'. See Hooker, *Himalayan Journals*, Vol. I, pp.302-3. During their captivity they were visited by Tchebu Lama who probably advocated for their release at the court, for Hooker stated that 'he had suffered severely for his adherence to us, and repudiation of the Amlah's conduct' See Hooker, *Himalayan Journals,* Vol. 2, p.224. This episode is particularly significant because firstly Tchebu Lama received as a grant in perpetuity on payment of Rs 500 annually during his lifetime, and Rs 1000 after his death, a stretch of 49 square miles of land, which was part of the Sikkim Terai seized from the Raja in 1850. Even more significantly, Tchebu Lama's loyalty to the British inspired Campbell to have him appointed as the Raja's agent in Darjeeling. On Campbell's recommendation he was also awarded the Order of the Star of India. A. Campbell, 'On the Lepchas', *The Journal of the Ethnological Society of London*, Vol.1. No.2, 1869, pp.143-157.

[42] O'Malley, *Darjeeling,* p.32.

[43] For immigration to the Darjeeling district, see Tanka Bahadur Subba, *The Quiet Hills: A Study of the Agrarian Relations in Hill Darjeeling*, Delhi, 1985, pp.10-17. See also by same author, *Dynamics of a Hill Society: The Nepalis in Darjeeling and Sikkim Himalayas*, Delhi, 1989, pp. 120-1.

[44] Subhajyoti Ray has argued that Bhutanese raids were not attacks on the property of peasants, but rather a means of 'enforcing collection of tribute'. See Subhajyoti Ray, *Transformations on the Bengal Frontier, Jalpaiguri 1765-1948,* London, 2002, p. 28.

from the over-populated, clamorous plains. Kennedy has stressed the Edenic sanctuary aspect of the hill-station, and argued that the British understood the Lepchas, the indigenous people of as the 'guardians' of the Edenic sanctuary, because they did not confront annexation militarily.[45] But the demography of the entire Darjeeling hill area changed drastically after its annexation to British India. The Nepali immigration into Darjeeling was a the result of a conscious policy initiated by Campbell, in order to populate and settle the entire region, as well as to provide much of the labour necessary to sustain the European habitation of the town itself.

The Lepchas , as Kennedy suggests, were possibly exoticised as a gentle tribe who live simply close to nature and were understood as the 'guardians of the Edenic sanctuary' in Darjeeling. Kennedy makes a similar case for the Todas, the original inhabitants of the Nilgiris. It is true that the Lepchas offered no resistance to British annexation; Herbert was to anticipate Campbell and other administrators after him when he contemplated a co-operative population of Lepchas in Darjeeling;

> In the event of a settlement being made, and to develop the resources of the country, we should require....a small population, intelligent, active; willing to be directed...Such a population are at hand- natives of the very spot we have chosen...The character of these people particularly fits them to co-operate with Europeans in improving the country [46]

In the case of Darjeeling the guardians of the Edenic territories argument is tenuous because British policy also enabled immigration from eastern Nepal and settlement of Nepalis in the area. This encouraged trade between the borders and even fuelled

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[45] Kennedy, *Hill Stations of the Raj*, pp. 63-87. Campbell himself had thought that the Lepchas were 'the most interesting and pleasing of all the tribes around Darjeeling'. A. Campbell, 'On the Lepchas', p.145. This was so because, he pointed out, 'They were the first to join us on our arrival there, and have always continued to be the most liked by Europeans, and to be the most disposed to mix freely with them'. Ibid. Hooker noted; 'In their relations with us, they are conspicuous for their honesty...Kindness and good humous soon attach them to you person and service'. Hooker, *Himalayan Journals,* Vol.1, p.136.

[46] *Report on Dargeeling,* pp.11-13.

dreams of a trans-Tibetan trade, the subject of many treaties with Nepal as well as Tibet. That, and strategic considerations regarding both Nepal and Tibet make it difficult to assume that the Edenic sanctuaries were uncontaminated spaces even in the perspective of the British administrators. At first many Nepalis crossed the border to work for a season and went back to their villages.[47] But gradually many settled in Darjeeling.

Nepali immigration proved particularly useful when the tea plantations, an enormously labour intensive industry, took off commercially. In the course of the nineteenth century, the successes of the tea plantation industry made Darjeeling a part of the colonial economy, however scenic the landscape. My contention is that the Edenic sanctuary was always a part of the colonial economy- not just a refuge from the ills of the tropics. The Darjeeling plantations, unlike Assam, did not have to resort to indentured labour because there was a supply of labour available from eastern Nepal, first introduced at the very outset of Campbell's administration of Darjeeling. The example of Darjeeling thus reveals many more motives in the establishment of enclaves for European health, their settlement and occupation than has been suggested by Kennedy. The indigenous Lepchas were pushed out of the area by the more enterprising Paharia (Nepali) immigrants 'partly due to their inability to stand Paharia competition for land and partly due to the daily increase in population of the place.'[48] The Lepchas, like the Meches of the Terai, practised *jhum* cultivation, a practice always looked upon with suspicion and disdain by the colonial officials, whose attempt was to generally settle the land with permanent rent paying cultivators. But even those Lepchas who tried to cultivate permanent

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[47] See O'Malley, *Darjeeling*, p. 317.

[48] Memorandum of Manager, Government Estate, to Deputy Commissioner, Darjeeling, 20 June 1898, General Department, Collection G, File No 32, (Record Room, Darjeeling).

fields were driven out by the Paharia money-lenders who usurped their land by the turn of the century.[49]

Campbell was the one to introduce tea to Darjeeling, the product that would contribute most to the transformation of the economic base and geographical space of the entire Darjeeling hills. He reported his first experiments in tea cultivation to the Agri-Horticultural Society, in 1847. He had first attempted to grow tea from seeds from the Kumaon which he procured from Nathaniel Wallich, Director of the Botanical Garden at Calcutta, in November 1841. They survived and in 1846 he also obtained seeds from Assam, in order to 'give an extended trial to the plant,'...[50] The next year Campbell reported the failure of his seedlings, which did not survive the winter snow. The editors of the *Journal* concluded that similar results having been obtained in Mussoorie, the tea plant would not thrive at an altitude greater than 6,500 feet.[51] However, in the next few years tea seedlings were distributed to various settlers in the Darjeeling hill region, and several of them succeeded in growing tea, at a slightly lower altitude.[52]

Archibald Campbell was an administrator who had pursued many enterprises. Not only did he attempt to grow tea in his nursery at Darjeeling; he experimented with the manufacture of coarse paper by importing artisans from Nepal, using their skills and material available locally.[53] The attempt was not particularly successful. He also

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[49] In the next memorandum, the Manager added that such land-grabbing was mostly 'done without the knowledge of the authorities', Ibid.

[50] A. Campbell, 'Note on the culture of the Tea Plant at Darjeeling' *Journal of the Agricultural and Horticultural Society of India*, Vol.V1,Part 1. 1848, Calcutta,1848, pp.123-124.

[51] *Journal of the Agricultural and Horticultural Society of India*, Vol .VII Part 1.Calcutta, 1849, p. 31.

[52] Ibid. Vol. VIII, J A Crommelin, 'A brief account of the experiments that have been made with a view to the introduction of the Tea Plant at Darjeeling' Calcutta, 1852, pp. 91-95.

[53] *Journal of the Agricultural and Horticultural Society of India*, Volume 1, Fort William, 1842, pp. 210-221.

tried to grow cotton in the region.[54] There were also plans to establish cinchona plantations through private enterprise in the Darjeeling hill area particularly after the success of the tea plantations, though the optimism in this regard eventually did not fulfil expectations.[55] Besides the commercial plantations, large sections of the land in Darjeeling was taken over by government as 'reserve forests', where forest management and the supply of timber and other commodities from the forest provided the government with revenues. It also restricted access to forests resources for the local population. The sanatorium town as well as the entire Darjeeling district became a part of the colonial economy.

Thus Campbell's initiatives, exercised through the powerful office of the Superintendent of Darjeeling contributed greatly to the colonization and settlement of Darjeeling hill area in the first decades of the foundation of the hill resort. A few years after he retired, at a meeting of the Ethnological Society of London Campbell described his role in settling Darjeeling :' People flocked from all sides, and we rapidly acquired a thriving population. When I took charge there were not more than fifty families in the whole tract....In 1861, when I left Darjeeling, the total population was estimated at 60,000'.[56] His contribution as an administrator was that both the hill- town and its environs were colonized and settled, and in the next two decades, the entire area was integrated into the colonial economy.

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[54] Ibid, Volume VII Part 1. A. Campbell, 'On the cultivation of Cotton in the Darjeeling Morung; and the capabilities of that tract for the extensive growth of superior cottons', p. 287. The cultivation of the superior variety of cottons in India was a very crucial component of scientific agronomy in colonial India. Reports of attempts to cultivate cotton (and tea) in India were published regularly in the volumes of the *India Review and Journal of Foreign Science Arts* from 1838 to 1848 as well as in the publications of the *Journal of Agri-Horticultural Society of India* between 1842-52.

[55] J. A. H. Louis, *The Gates of Thibet-:A Bird's Eye View of Independent Sikkhim, British Bhootan and the Dooars As A Doorga Poojah Trip* ,Calcutta 1894, p. 8.

[56] A. Campbell, 'On the Tribes around Darjeeling', *Transactions of the Ethnological Society of London*, Vol.7 (1869), pp. 144-159.

Therefore David Rennie, a IMS surgeon, found Darjeeling a bustling town, accommodating several companies of the British army at its cantonment at Jalapahar in 1865.[57] Besides the tea plantations, in the late nineteenth century the Government of India established a cinchona plantation in Mungpoo in the Darjeeling hill area near Kalimpong.[58] By 1871, when the production of tea in Darjeeling exceeded three million pounds, and tea plantations extended to the foot of the Terai, the Journal of Society of Arts in London (which promoted commercial agriculture in the colonies) noted that 'The great drawback now is a line of railway, to connect Darjeeling with the East Indian Railway at Sahibgunge or Rajmahal'.[59] The completion of the Darjeeling Himalayan Railway in 1881 which ran from the foothills of the Terai at Siliguri to the Darjeeling town reduced the travelling time for seasonal visitors as well as providing for the transport of tea.[60]

In 1882 the first sanatorium in the town, the Eden Sanatarium, exclusively for Europeans was established. The large increase in the population of the town was due partly also to the regular summer shift of the entire administration of the Government of Bengal from Calcutta to Darjeeling. The overall dramatic rise in the population of the Darjeeling hill area is evident from the census over the years: it rose from 94,996 in 1872 to 249,117 in 1901.[61]

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[57] David Fields Rennie, *Bhootan and the story of the Dooar War; Including a three months residence in the Himalayas etc.* London 1866.

[58] Abhijeet Mukherjee, 'The Peruvian Bark Revisited : A Critique of British Cinchona Policy in Colonial India', *Bengal Past and Present,* Vol.117,1998, pp. 81-102. Cinchona plantations were also established in the Nilgiris in south India. Kavita Philip has made a distinction between the government-owned cinchona plantations in the Nilgiris from the privately owned and managed tea, coffee, and rubber plantations, because the cinchona plantations were supposed to have 'occupied a romanticised ecological space in the colonial imagination, unlike the economic and managerial conceptions of the plains landscapes', see Kavita Philip, *Civilising Natures: Race, Resources And Modernity in Colonial South India,* Hyderabad, 2003, p. 255. In Darjeeling, where the landscapes were romanticised in the tea plantation areas as much as anywhere else, Philip's argument is not acceptable.

[59] 'Darjeeling Tea Crop', *Journal of the Society of Arts*, vol. 20, 1871, p.94.

[60] *Darjeeling And Its Mountain Railway, A Guide and Souvenir,* (first published 1921), Kolkata 2002.

[61] *Imperial Gazetteer of India, Provincial Series, Bengal.* vol. *2*, Calcutta 1909. p.197.

2.4 Sanatorium Darjeeling in medical/official discourse

The institutionalisation of hill stations to create enclaves of English homeland away from the plains was part of colonial strategy of survival in the tropics. The unhealthiness of plains, and particularly the plains of Bengal was an all too familiar convention of medical discourse in nineteenth century colonial India.[62] The mountains were posited in opposition. Harrison has pointed out that until the 1830s, the acclimatization theories were both optimistic and heterogeneous; this, together with the fact that the implications, mostly derogatory, of the word 'tropics' were not explicit till the 1830s meant that the quest for survival of Europeans in India was located within the parameters of the Indian experience itself. Therefore medical texts often advised borrowing from Indian dietary habits and Indian clothing, and borrowed, for example, from the Mughal customs of leaving the hottest places in the peak of the summer for more salubrious ones. [63] It has been further suggested that the hill stations were built and sustained also to retain, in physical as well as in metaphorical terms, the distance between the rulers and the ruled.[64] This distancing was articulated in the location of the stations themselves, away from the mainstreams of the Indian population in the plains. It was reinforced in the architecture and the social life of the British in India.

When J.D. Herbert wrote his survey of the site that was to become the sanatorium of Darjeeling, he recommended it as a station of health for European troops, mainly for its pleasant cold climate. The Governor General's note on his survey carried the opinion of one Dr Jeffrey, which further validated the claims of Darjeeling on the basis of its elevation; 'Of the healthiness of Darjeeling...Dr Jeffrey I believe

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[62] Harrison, *Climates and Constitutions,* p.19. See also, Arnold, *The Tropics and the Traveling Gaze*, pp. 42-54.
[63] Harrison, *Climates and Constitutions*, p.52.
[64] Kennedy, *The Magic Mountains* and Kenny, ' Climate, Race, and Imperial Authority' .

mentions that fever and ague disappears amongst these mountains at an elevation of 6000 feet, and if he is correct Dargeeling will be exempt'...[65] The Governor General initially favoured Darjeeling to an alternative site that had been suggested in the Khasi hills above Sylhet. The elevation of Darjeeling was decisive :

> We were informed that in August and September fevers are common, but the places pointed out were at a lower elevation than Dargeeling...and I am therefore led to conclude that although fever may be troublesome where the Houses are placed at low elevation...after a certain height even a thick forest ceases to be dangerous.[66]

Although the forests of the Terai were infamous for fevers, the elevation of the hill station was to secure Darjeeling from most diseases. It was not only free of disease, its very air was supposed to help invalids effect miraculous recoveries. All writing on Darjeeling, whether medical texts or informative tourist guide invariably contributed to the construction of a narrative of the healing mountains. Pearson who stayed there through the months of September to November, had commented in 1839 ,

> There is an elasticity of the air in these mountains, and a freshness, which impart a feeling of positive enjoyment. ...You are then cold, but not chilly; and exercise gives all the pleasant glow of an English walk on a frosty morning. In the day you are warm, but not hot; the sunshine is pleasant [67]

He was convinced of the prospects of Darjeeling as a hill station; '....there have been....very few cases of bad health even in the natives; and those were generally found to have been contracted in the morning, in the plains'[68] There are two significant points to the above testimony. The first is the clear assumption of the distinction on the very constitutions between the 'natives' and the others, the non-

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[65] *Report on Dargeeling,* p. 17.
[66] Ibid. pp. 18-19.
[67] Pearson, *Note on Darjeeling.* Darjeeling, pp. 11-12.
[68] Ibid, p. 12.

natives. The non-natives were Europeans; perhaps specifically English who are expected to identify immediately with the 'pleasant glow of an English walk' – the people for whom the cold mountain air would prove bracing and healthy. The second is the postulation that whatever diseases did prevail in the mountains were somehow contracted in the plains. Both the suppositions persisted in medical as well as non- medical texts on Darjeeling over the next century. The essential rhetoric of a sanatorium appeared to be posited versus the unhealthy plains. It rested on the conception of the healthy, active, muscular English constitution for which 'corporeal exertion' was supposed to be a joyful activity and a natural state of being. The tropical plains had divested the English constitution of its natural self. The mountains were posited to restore it, or at least in some measure. Thus we see that in 1839 when the hill station of Darjeeling was at a formative stage, the tone of the medical discourse was set. Pearson went on to describe the European's life in Darjeeling in terms both what one must conclude were typological terms, 'Europeans soon lose their dyspeptic symptoms, regain their appetite, and feel an aptitude and desire for corporeal exertion'.[69] Brian Hodgson, formerly the British Resident at Kathmandu (who had retired to a comfortable bungalow in Darjeeling) extended the hill-plains dichotomy with reference to cholera, the scourge of the plains,

> The fearful epidemics of the plains seldom penetrate the Himalayas, which, moreover, seem to have a positive exemption from endemic diseases. For forty years cholera has ravaged the plains continually...But in all that period Nepal has been visited only twice and Darjeeling scarcely at all.[70]

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[69] Ibid.

[70] Brian Hodgson, 'On the Colonization, Commerce, Physical Geography etc. of the Himalaya Mountains and Nepal', *Selections from Records of Government of Bengal*, No.27-32, National Archives of India, New Delhi (Henceforth NAI), p.15.

Hooker, who spent several months at Hodgson's home in Darjeeling between his botanising expeditions, endorsed the rejuvenating qualities of Darjeeling for Europeans;

> When estimating in a sanatory point of view the value of any health-station,.... I have seen prejudiced individuals rapidly recovering, in spite of themselves, and all the while complaining in unmeasured terms of the climate of Dorjiling, and abusing it as killing them. With respect to its suitability to the European constitution I feel satisfied, and that much saving of life, health, and money would be effected were European troops drafted thither on their arrival in Bengal, instead of being stationed in Calcutta, exposed to disease, and temptation to those vices which prove fatal to so many hundreds. This, I have been given to understand, was the view originally taken by the Court of Directors, but it has never been carried out.[71]

What is interesting about the quote is that a construction of a healthy site, Darjeeling, was already under way, which denied or glossed over unsavoury experiences with the climate. The experience of the Europeans who complained that the climate was killing them was not given legitimacy by Hooker. His comment on the healthiness of the climate of Darjeeling, however, endured and received wide circulation in official and non-official histories of Darjeeling.

Expectations of cures from most ills of the tropics were endorsed by medical experience: for instance, one Dr Hutchison remarked that after six months of practice in 1843 he had several examples to offer of officers who were cured after a stay at Darjeeling. Three of them had suffered from fever in China and were emaciated and sickly when they arrived in Darjeeling. Of another officer whose ailment was not described in physical terms, the doctor wrote only that his 'constitution and nerves were completely shattered and to whom life was more a burden than a pleasure', was cured in three months.[72]

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[71] Hooker, *Himalayan Journals* , Vol 1, p. 110.
[72] *The Dorjeeling Guide*, p.47.

From the time of its inception, therefore, official and medical discourse endorsed Darjeeling, like several other mountain resorts, as places where European bodies could recover from illnesses contracted in the tropical plains.

2.5. 'Disorders to which the climate is not at all suited'

At the same time, the efficacy of the mountain air was not a panacea that would guarantee freedom from all ills of the European body in the tropical country. Pearson had acknowledged that there might be doubts about the usefulness of sending Europeans to the mountains as a cure for most ills. The mountain air was not an isolated prescription:

> Some doubt of the perfect adaptability of this climate to diseases of the abdominal viscera have been expressed, ...The whole question.... (is) not whether this climate be a perfect one for treatment of visceral disease, but whether it be not superior to that of the plains, and places where patients have contacted them; and where they must remain, unless they are sent here; and surely there can be no doubt of the answer.[73]

Hooker, whose remark on the healthy rosiness evident in the cheeks of the European children was quoted in almost every guide book to Darjeeling over the next seventy years, also pointed out that :

> There are however disorders to which the climate (in common with all damp ones) is not at all suited; such are especially dysentery, bowel and liver complaints of long standing; which are not benefited by a residence on these hills, though how much worse they.... might have become in the plains is not known. I cannot hear that the climate aggravates, but it certainly does not remove them.[74]

The dampness of Darjeeling and its effects on European constitutions engendered several theories and disputes in the medical discourse of colonial India. Moreover, acclimatization was not only a problem of European bodies. In the mid-nineteenth

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[73] Ibid. Emphasis mine.
[74] Hooker, *Himalayan Journal,* Vol. I p. 111.

century, Hooker pointed out the difficulties of native Bengali existence in Darjeeling;

'Natives from the low country, and especially Bengalees, are far from enjoying the climate as Europeans do, being liable to sharp attacks of fever and ague, from which the poorly clad natives are not exempt...'.[75] Simultaneously he contemplated that it might not have been only the Bengali 'constitution' that resulted in distress for them in the high mountains

> It is, however, difficult to estimate the effects of exposure upon the Bengalees, who sleep on the bare and often damp ground, and adhere, with characteristic prejudice, to the attire of a torrid climate, and to a vegetable diet, under skies to which these are least of all adapted.[76]

His acknowledgement of the influence of certain factors regarding diet and clothing affecting the acclimatization of Bengalis to Darjeeling suggests that climatic theories had not completely undermined perceptions of acclimatization; with adaptations to diet and clothing, Bengalis could inure themselves to the climate. Kennedy has quoted Emily Eden's descriptions of how her Indian servants suffered in Mussorrie and Simla and noted that the very phenomenon of the shivering servants underlined the suitability of the hill stations for the Europeans.[77] Undoubtedly, Eden was referring to the servants of the British who had inadequate, Indian clothing and linen and were able to endure the cold with less fortitude than the well- dressed, wealthy Indians in Simla or Mussoorie, who were quite similar in wealth and status to the affluent Bengalis who flocked to Darjeeling from the late nineteenth century. Hooker's very condemnation of the lifestyle of the natives- their Spartan diet, and clothing 'of the torrid zone' suggests that even when perceptions of racial characteristics were hardening, there was space for acclimatization to be

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[75] Ibid.
[76] Ibid.
[77] Kennedy, *The Magic Mountains*, p.36.

accommodated into the racialised medical discourse that Harrison and Kennedy have claimed for most of the nineteenth century. This is relevant to the appropriation of space in the hill-station by the Indian elite in the course of the late nineteenth and early twentieth centuries.

The dampness of Darjeeling qualified its idyllic elevation to some extent. In the early twentieth century, the problem persisted, and a long -term resident noted that, 'The population of the higher levels, or temperate zone, suffer from chills, fevers; bowel complaints, and for rheumatism, and pthisis, which is a great scourge.'[78] That people suffering from diseases of the lung like tuberculosis could not benefit to any great extent from a stay at Darjeeling was apparent by the early twentieth century.[79] The chief reason was the unsuitability of the climate for the treatment of the disease.[80] In 1909, as the Civil Surgeon of Darjeeling remarked at a specially convened meeting of the Asiatic Society on Tuberculosis, 'As to the suitability of the climate, ... Advanced cases...find considerable difficulty in breathing, and complain of...uneasiness.'[81] For most of the year, the enjoyment of fresh ozone-rich air so elaborately described in many handbooks and confirmed by medical opinion, was an impossibility:

> From the beginning of June till the middle of October there are heavy rains with mist and absolute saturation of he air with moisture. There is not much sunshine, and exercise out of doors is curtailed. To keep out the mist and the damp, rooms have o be shut up...unsuitable for all classes of cases.[82]

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[78] Dozey, *A Concise History of The Darjeeling District,* p.84.

[79] The discovery of the Tuberculosis bacillus by Koch did not immediately do away with climatic cures for lung diseases. 'Fresh air' sanatoriums were built in Germany and in the UK in the early twentieth century as well. See Linda Bryder, *Below The Magic Mountain; A Social History of Tuberculosis in Twentieth –Century Britain,* Oxford 1988, pp. 46-8.

[80] J. T. Calvert, 'Note on Darjeeling Climate In the Treatment of Pthisis', *Indian Medical Gazette,* Vol. XLIV, April 1909, (Reprint), p.2.

[81] Ibid.

[82] Ibid.

Such deterrents lead him to conclude with finality, 'If a residence for European consumptives is being sought, I fear it will have to be some other spot than Darjeeling.'[83]

2.6. The Jalapahar and Senchal Convalescent Depots

The inclement climate of Darjeeling affected the health of the British Indian troops in the cantonments as well. The Jalapahar convalescent depot was built in 1848 and sited on a narrow ridge (the Jalapahar) above the Mall.[84] In 1859 the buildings consisted of five barracks, two for married, and three for unmarried quarters. Besides there was a hospital and officers' quarters.[85] The medical officer in charge of the sanitary depot, one G. Maclean, endorsed neither the climate of Darjeeling nor the situation of the convalescent depot. The climate of Darjeeling, the very factor that had so impressed Herbert, was a grave difficulty:

> The year at Darjeeling may be divided ...into the two periods- During our period which may be said to last from ... December to ... October the climate here is wet, foggy and cold. From ... April to the end of September the rains pour down incessantly....The other period consists of two months-during which the weather is generally ... clear and cold...[86]

The very aspect of Darjeeling that was meant to regenerate invalided British soldiers from the diseases and debility experienced in the plains was in question. The climate was 'wet, foggy, and cold', in the monsoons it rained heavily and interminably, and with the exception of two months in the year, there was little sunshine. It was not only the climate and physical aspects of Jalapahar that appeared to render it unsuitable for the British troops. The construction of the barracks was ill- conceived

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[83] Ibid. p. 3.
[84] Dozey, *A Concise History of The Darjeeling District* , p.30.
[85] 'Report of G. Maclean, Assistant Surgeon 42nd Royal Hussars, in charge of Darjeeling Sanitary Depot', 334/171/WO/PRO, p.1.
[86] Ibid. p.2.

and badly executed. It is evident that the barracks for the troops were not lavish; they even lacked fireplaces and provision for hot water for washing. Maclean wrote,

> Their plan appears to be much the same as that of barrack building on the plains in which it is an object to exclude sunshine, heat and glare as much as possible. The consequence is that the barracks at this depot are cold, dark, comfortless...unfitted for habitations for men in health not to speak of sickly...for whose accommodation they are intended [87]

Another smaller cantonment was located at Senchal, which accommodated invalided soldiers 'quartered in daub and wattle structures' from 1844.[88] Barracks were built at Senchal in 1857 and partially completed in 1859, when Maclean wrote his report. Of Senchal he said, 'If in their construction has intended to exclude light and deprive almost completely their inmates of the benefits of ventilation the result could be hardly more satisfactory. ...'[89]

Faulty planning, universal and rigid rules for institutional architecture, a lack of responsiveness to local situations may be characteristics of any bureaucratic structure, and the British army in India was plainly not exempt from such rigidities. What is interesting in this instance is the particular combination of the lack of attention to details that would help modify the buildings to the climate and at the same time, the recognition by the medical men on the spot that the corrections to the architecture was only part of the problem. Essentially the problem of the convalescent depot was its location and its climate, which was too close to that of the home country for comfort. What does this tell us of Maclean's understanding of British constitutions and acclimatization? He noted that the troops who had been in India for a period were unused to the extreme cold and dampness; their health had deteriorated and they had not the physical resilience, it is presumed, to be able to

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[87] Ibid. p.4.
[88] Dozey, p. 151.
[89] Report of G. Maclean, p.8

recoup in the heights of Darjeeling, where the cold and damp were extreme. On the one hand this was an endorsement and reaffirmation of the logic of physical weakening of the white man in the tropics: but the solution did not appear to lie in an absolute acceptance of the reversal of climatic zones; indeed, such was hardly possible. In fact, Maclean's report seems to indicate that he thought that the British troops underwent a certain kind of acclimatization in the plains, so that they had to re –accustom themselves to a cooler temperate climate in Darjeeling.

However crystallised the racial categories and the hardening of attitudes might have become in the post 1858 situation, the oppositional constructs between the hills and the plains did not resolve all problems of health among the British troops. A too-literal interpretation of the hill-plains duality posed problems that at least the medical officers in the Army had to confront in convalescent depots like Jalapahar. The happy prospects envisaged by Herbert seem exaggerated when confronted with the complaints of Maclean; 'It is much to be regretted that for five -sixths of the year the climate and locality of this place is such as to render outdoor exercise either an impossibility or extremely dangerous to Convalescents...'[90] And yet, troops suffering from fever, ague, diarrhoea as well as dysentery, bronchitis and pthisis were 'not unfrequently' sent to Jalapahar.'[91] And as for Senchal,

> If Jullapahar which is 7000 ft above the sea level is thought by everyone to be too high an elevation, too harsh a climate and too exposed for the European soldier- well or ill- how much more must the climate, elevation and exposure of Senchal at 8000 ft above the sea level be unsuitable as a station for a European contingent for which it is intended. [92]

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[90] Ibid, p. 5.
[91] Ibid. p. 3.
[92] Ibid.p.7.

He believed that the very elevation and locations of both convalescent depots could actually increase the mortality rates of the European troops.[93]

Maclean was not isolated-all his predecessors were of the same opinion and appear to have sent voluminous quarterly and annual reports to the same effect.[94] On 24 August 1859 a committee under the chairmanship of one Capt Jones, IMS, with two other members, also medical officers, sent in several recommendations to repair or rebuild the faulty structures of the buildings in the convalescent depot.[95]

Rennie, whose regiment was stationed at Darjeeling at the time of the Anglo-Bhutan war in 1865, also had little favourable to say about the convalescent depots.[96] From his observations of the trends of fever among the troops located at Senchal and Jalapahar, he attributed fever and ague to the 'atmospheric climate' rather than miasmatic causes.[97] If the miasmatic explanation was not acceptable, how would the troops be made secure from malaria? Not, certainly, by establishment of hill sanataria for them. Rennie's rejection of a miasmatic explanation of fever and ague, and exposition of atmospheric conditions as causing fever is indicative of a heterogeneity of understandings regarding disease causation. It differed from the opposing construction of the tropical air of the plains versus the purity of the mountains. He did not specify the 'morbific agent'; hence the mountains and the plains could both easily be affected and prove ruinous to the health of his troops.

Rennie, like McLean, dwelled on the fog and the dampness at the cantonments of Darjeeling, and noted the fevers and ague prevalent among the British troops, although their understanding of the causes for the illnesses differed. So far as

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[93] Ibid, pp. 7-8.
[94] Ibid.p.6.
[95] Ibid. Appendix.
[96] Rennie, *Bhootan and the story of the Dooar War,* p. 349.
[97] Ibid. pp. 302-303.

Rennie's explanation of fever among the troops is concerned, he linked disease and immunity from fevers with race. His observations were confirmed after his visit to Duars where he saw the Meches who appeared to be immune from fevers though they lived in marshy lands infamous for malaria.[98] The differentials in race however were not translated into advocacy of mountain sanatoria for the British troops in India. Rennie's analysis of the health of the Meches verged towards racial understanding of disease but also looked back to the older conception of 'seasoning' that still appears to have prevailed to some extent in the second half of the nineteenth century. Rennie contested the miasmatic theories of fever and announced a robust contempt for the 'sanitarians'.[99] This was a significant deviation from the prevalent miasmatic theories. It indicates that besides miasmatic theories which were attributed to the physical conditions of life, and by logical extension, the lack of hygienic practices among the natives which were familiar conventions of medical commentary, there was another pattern of explanation of fever; the racial immunity and native land explanation. One would argue for a multiplicity of etiological understandings of tropical diseases even in the second half of the nineteenth century. Meanwhile the condemnation of some of the cantonment sites around Darjeeling by medical officials in the army had limited effect. The cantonment at Senchal, which occupied the highest elevation of all the stations around Darjeeling at 8,163 feet, was abandoned in 1867 and transferred to Jalapahar, located at 7,701 feet, among rumours of several suicides by soldiers stationed there 'owing to the excessive isolation and bitter cold'.[100]

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[98] Ibid, p. 347.
[99] Ibid, p. 302-3.
[100] Dozey, *A Concise History of Darjeeling*, p.151.

The fact that the cantonment at Jalapahar survived demonstrates the tenacity of the influence of the hills-plains dichotomy in official discourse despite the lack of medical evidence that the 'hills' were healthier for British soldiers. At the same time, the graveyard at the abandoned Senchal cemetery was a grim reminder of the limitations of mountain-sites as convalescent depots in British India.

2.7. Travel literature, the townscape of Darjeeling, and European society: Multiple constructions of social space

A Welcome
When you feel, below, dead-beat,
Overpowered by trying heat,
Worn by day, at night no rest;
Then, 'tis surely manifest,
That you should at once take train;
Come above, and health regain!

Here, in Flora's grove be instant;-
Prospect beauteous near and distant .
Ferns and orchids in their prime,
Scented blossoms sweet as thyme.
Pleasant Mall, Chowrusta clear;
Tempting resting place is here!

See, the Snows' celestial wreath!
Search, the deep ravines beneath.
Hear, the torrents' raging wrath
Thundering down each rocky path,
Leaping, frantic, mad with glee,
Bounding, foaming to the sea.

Come! Darjeeling, Queen of Health!
Cedes to all, her precious wealth,;
Vigour, spirit, bloom, desire,
Strength, and impulse to admire
Scenes, that sentient souls uplift.-
Great Creator, Thine the gift!

Mountain breezes, from the Snow,
Pure, invigorating blow.
Respite here, from heat and strife,
Gives a new-born lease of life!
Health's Queen pleading, from her throne,

Bids you welcome to her Home![101]

The above verse was written by one Capt. J.A. Keble, who also wrote several other similarly undistinguished verses on various aspects of European life in Darjeeling. The entire poem is constructed as a move from a state of near- death, to one of rejuvenation. In the first stanza the poet addresses the invalid who is exhausted, and relies heavily on the use of the pun 'dead beat' to emphasise his point. The second stanza is devoted to rest: and gentle promise of European settled life in the town: the Mall and the Chowrusta (literally, a cross-road; in this case the name of the flat territory at the beginning of the Mall, not a natural flat ground but one constructed by the British, along with the Mall). In the third stanza there is movement from a prostrated state to one of action: '*see* the snows' celestial wealth; *search* the ravines beneath; *hear* the torrents' raging wrath'. It appears that a certain degree of healing has been achieved and the convalescent is gradually beginning to connect with life and with nature. The next stanza moves triumphantly to 'vigour, spirit, bloom, desire'; all the signs of coming to life and energetic activity. The final stanza is both the declaration of the resurrection: 'Gives a new-born lease of life!' and an invitation to experience a similar rebirth.

The verses above represent the various meanings that Europeans could ascribe to Darjeeling articulated within a discourse of health and rejuvenation. Unfavourable experience and medical comment from military officials did not significantly affect the reputation of sanatorium Darjeeling as a hill station or indeed as a resort for convalescence and cure. How is it possible to understand the phenomenal growth of Darjeeling as a hill station in the context of the inconsistencies in the medical discourses of the hill station? The first assumption of course is that there are always

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[101] J. A. Keble, *Darjeeling Ditties and other poems: A Souvenir*, Calcutta 1908, p. 14.

differences in medical discourses under any circumstances. Official policy was not always accommodating of dissent from medical experts, particularly in British India. That apart, Kennedy argues that the rush for the hill stations in the nineteenth century reflected the need to carve out a social space that was particularly Europeanised as well as sanitised, as the plains of India increasingly came to be identified with dirt and filth, and the sanitarian perspectives of IMS officials assumed prominence in medical discourse as diseases came to be increasingly identified with filth. A distancing was prominent between Indians and Europeans in the hill-stations: the native bazaars were always located separately, and at a lower elevation from the European habitations. Physical distance was expressive of social distance, achieved with forethought and sought to be maintained with scrupulousness. While I agree with Kennedy that there was deliberation in the location of European habitations in Darjeeling and that they created a social space, my point is that the hill stations were carrying forward a tradition of civil stations and European enclaves from the plains themselves. They were not unique to the mountains.

The older colonial ports, such as Madras and Calcutta and to an extent Bombay, from the seventeenth century generally retained distinctions between the Indian and the European residential parts of the town.[102] In the decades after the revolt of 1858, the cityscape of many Indian towns was deliberately marked out into the native part of the town and the European enclave. Thus the civil lines, cantonments, wide roads

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[102] Meera Kosambi; John E. Brush, 'Three Colonial Port Cities in India', *Geographical Review*, vol. 78, No.1, (Jan., 1988), pp. 32-47. P.J. Marshall has argued that 'Although they never achieved the kind of segregation that Europeans later established in some Indian towns by withdrawing to cantonments and civil lines, the British in Calcutta always aimed to live in their own town and were largely successful in this aim. A considerable part of Calcutta came to be known as 'the white town', P. J. Marshall, 'The White Town of Calcutta under the Rule of the East India Company, *Modern Asian Studies,* Vol.34, No.2, (May 2000), pp. 307-331.

and sanitary regimes of colonial Lucknow were so self-consciously different from the maze of old lanes and crowded bazaars of *nawabi* Lucknow[103]. A multitude of symbolic, cultural, sanitary and medical values were associated with the construction of the new colonial Lucknow. Nor was Lucknow the only instance of such an assertion. There was a similarity to Kanpur, for instance, where there was a European settlement due to the Company's cantonment from the eighteenth century. When the various European owned industries in Kanpur took off in the nineteenth century, their owners and managers lived in houses that were secluded and airy, next to the river, and grew in their kitchen gardens all sorts of English vegetables for their tables.[104] Thus they created minor enclaves, clearly marked out European residential areas in Kanpur. Similarly, the British in nineteenth century Benaras, official as well non-official, stayed two miles away from the crowded old town in a new suburb where they built sprawling bungalows open on four sides to let the air in.[105] The European settlement in Darjeeling created an enclave for themselves; but it was a settlement that eventually, with the consolidation of the tea industry, assumed commercial importance, not an Edenic sanctuary that was gradually disrupted. The British associated the hill-stations particularly with the rejuvenation of European constitutions. However, the mountain sanataria were *one* of the several such strategies of creating enclaves and attempting to adapt to the particularities of the country and of the environment.

In the last two decades of the nineteenth century and over the early years of the twentieth century substantial medical opinion, although occasionally ambivalent, nevertheless endorsed the air, the climate, the physical aspects of Darjeeling as

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[103] Veena Oldenburg, *The Making of Colonial Lucknow,* Princeton, 1984.
[104] Chitra Joshi, *Lost Worlds: Indian Labour and its Forgotten Histories*, Delhi, 2003.
[105] Bernard S. Cohn, 'The British in Benares: A Nineteenth Century Colonial Society', in *An Anthropologist Among the Historians and Other Essays*, Delhi 1987, pp. 422-62.

being suitable for European rest and recuperation. A plethora of guidebooks and other forms of tourist literature, often containing additional favourable opinions by European medical men, were printed throughout this period with the European visitor in mind.

The travel guides of the period both contributed to the construction of a mountain sanatorium and served to medicalise a retreat that evoked, to the British, memories of home. Even when it sometimes appeared, and it happened soon after its establishment, that Darjeeling was not really free of illness or disease, most ailments that occurred there were either held to occur in a milder form or straightaway attributed to the 'plains'. One guide noted in 1845:

> Fevers in Dorjeeling , as in most other places, form the great bulk of Indian diseases. They are believed to be, for the most part, contracted below, *though in some cases it is difficult to come to that conclusion.* It is said that malaria does not ascend to above 2,500 ft....However, they are very slight, having nothing of the inveterate character of those of the plains; and he has never seen a case in the well-fed European, which could not be traced to below[106]

It claimed that the diseases contracted in Darjeeling could be compared favourably even with relation to Europe: 'Rheumatism: is everywhere a tedious disorder, and it is not uncommon at Dorjeeling. Its general duration is less than in Europe.'[107] And invariably so in relation to the 'plains': 'When contracted below, it would be relieved by removal to this climate.'[108] The crucial point invoked in favour of its reputation as a site for convalescence was its suitability for specifically European constitutions weakened by debility in the tropical climate:

> The influence of the climate on persons enjoying a moderate degree of health is quite as satisfactory as it is in cases of diseases. In India there are many persons who can be called neither ill nor well; who are troubled with ...occasional fevers...indigestion...who are obliged to take a good deal of

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[106] *The Dorjeeling Guide,* Calcutta 1845, p. 35. Emphasis mine.
[107] Ibid.
[108] Ibid.

> care of themselves, and yet are able to pursue their ordinary vocations. Perhaps almost every European in India is more or less in this condition;...[109]

In sickness and in debility-general breakdown of the European constitution, a stay in Darjeeling came to be endorsed as the perfect remedy. A few weeks in Darjeeling could induce cures for many vague and incomprehensible dissatisfactions of being: 'The appetite becomes improved; hypochondrial symptoms disappear; and the aptitude to exercise returns with all the activity felt at home'.[110] The travel guides constructed and nurtured the association of England with Darjeeling, thereby at all, it was in the context of rates of wages for porters, the availability of local servants and ayahs, fresh poultry, and sometimes, the picturesqueness of the native Lepchas. The summer transfer of the provincial administration to the town lent its social space glamour and urgency.

The shift of capital to Darjeeling was occurred in the quest for a location away from the harmful miasma of the plains in the summer. Such miraculous recoveries of the body and spirit evoked with deliberation memories, real or re-constructed, of the English way of life in the Victorian age; 'Ladies who, in the plains, rose and took a constitutional drive by prescription, get up early in the morning, and take long walk; while gardening, and other out of door work, affords agreeable employment for the day.'[111] Thus recovery of good health was a family affair; 'Children, of all others, are benefited by a change to this climate. They are not long here, before the thin, pallid, playing on the carpet, peevish child, becomes fat and rosy; ...regaining his health and strength, and playing about as merry as an English child'.[112] European

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[109] Ibid.p.36.
[110] Ibid. Emphasis mine.
[111] *The Dorjeeling Guide*, pp. 36-37.
[112] Ibid, pp. 37.

constitutions and the familiar pleasures of out-door bourgeois English life- walks, gardening, and the prospect of their children, sickly and unhealthy in the plains, transformed into rosy cheeked energetic English boys and girls were evoked in the guide-books. Although they referred to the English climate and topography as a measure of comparison, the guide also provided adequate information about the availability of native servants and ayahs for the children.

The early optimism about Darjeeling as a sanatorium survived. Much of the expansion of the town of Darjeeling in the next few years was owed to its reputation as a sanatorium. Invariably its distinction was set down with relation to the 'plains'. A guidebook on the hill-station in 1883 articulated the distinction of Darjeeling as a site for rejuvenation of health:

> On account of its elevation Darjeeling is above the reach of malaria, and its equable, though moist climate renders it an excellent sanitarium for Europeans. The mountain air is charged with ozone, and at almost every inspiration the visitor, whose health has suffered from a long residence in the plains of Bengal, feels as if he were adding days to his life[113]

Hooker's description of Darjeeling, particularly his comment that the faces of children in Darjeeling indicate the healthiness of the place was quoted and elaborated upon:

> The children born and reared in Darjeeling are quite as chubby, bright, active and happy as could be seen in the most favoured spots of Europe, while children brought up from the plains of Bengal suffering from anaemia, flabby, pale, fretful....soon become models of health and cheerfulness, and run their parents' Butchers' bill up in an astonishing way.[114]

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[113] O'Brien, *Darjeeling: The Sanitarium of Bengal*, pp. 22-23.
[114] Ibid, p.24.

When fevers occurred they were attributed to the 'plains'.[115] The virtues of the climate and situation of Darjeeling were sometimes even held to surpass that of Europe; '....unlike towns at home, scarlatina is absolutely unknown, and so are most infantile maladies that one has to be prepared for in the old country'.[116] Discourses of illness and health were expressed in racial terms; English constitutions, and indeed disease, were indistinguishable from European ones, the 'old country' and 'home' and 'Europe' were used indiscriminately. The commonality among or uniformity of the European body appears, at this juncture, to have been a given fact. It was juxtaposed with the native bodies and the diseases associated with the 'plains', 'no case is on record of a European, whether child or adult, ever having been attacked with cholera in Darjeeling....Enlargement of the spleen is always much improved by a stay at Darjeeling, as are all other diseases traceable to malarial poisoning.'[117]

In the 1880s, there were some qualifications regarding the good effects of Darjeeling: 'But the visitor, more or less broken down in constitution, must be cautious if he wants the change of climate to do him good.'[118] Still, as its expansion and the glut of seasonal visitors testified, the town retained some reputation as a centre of health; in fact the Eden Sanitarium and Hospital was founded in 1882 to cater exclusively to Europeans and the Lowis Jubilee Sanatorium for Indians was set

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[115] S.O. Bishop, *Medical Hints for the Hills,* Darjeeling, 1888, p. 64.
[116] O'Brien, *Darjeeling*, p. 24.
[117] Ibid. Arnold has argued that the sudden death induced by cholera greatly contributed to the representation of the 'tropical deathscape' of the plains of India in European imagery. Arnold, *The Tropics and the Traveling Gaze*, pp. 45-6. The plains of lower Bengal were known as the 'home of cholera'. Harrison, *Climates and Constitutions*, p. 19.
[118] Ibid, p. 23

up within five years, in 1887 with initiatives from the rajahs of Cooch Behar and Burdwan.[119]

It is remarkable how much of the travel and medical literature agreed on the efficacy of Darjeeling as a hill station. The travel guides were aimed generally at comfortable middle class civilian and non-official Europeans, invalids and escapees from the oppressive heat of the plains in the summer. Darjeeling, like Ootacamund and Simla, hosted the official civil servant class as well as non- officials, alongside the European troops in the British army in India who lodged in a somewhat different mode in the convalescent depots at Jalapahar.

The guidebooks evoked an idyllic hill-station. But it came at a price. In Darjeeling as in Simla and Ooty, houses were expensive and difficult to obtain; in Darjeeling particularly, all foodstuffs had to be carried over from the plains by train or road and were said to be very expensive.[120] To those who could afford it, Darjeeling had many pleasant distractions to offer besides the climate and the scenery. Keble's celebration of such amusements lacks in literary appeal but not in detail and zest:

> "Darjeelingisticism"!
>
> There are people here, who feel *out in the cold!*
> And they therefore think, we are swaggeringly bold;
> But these folks though bland, do not quite understand,
> Our *Darjeelingisticism,* strikingly grand!
> Note the "istic" affix with "ism" in a long line,
> 'Tis from *it* we catch our bright, social , fine shine.
>
> Then our *kala jagas,* set back in the dark!
> So arranged, for heated pair-dancers to lark.
> 'Virtue traps'! so named, "most disgraceful, closed things;"

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[119] O'Malley, *Darjeeling*, p. 188.

[120] Pamela Kanwar has stated that it was so expensive to rent suitable bungalows in Simla that only the upper echelons of the military and civilian officials could afford to do so. See Pamela Kanwar, 'The Changing Profile of the Summer Capital of British India: Simla 1864-1947', *Modern Asian Studies*, Vol.18, No.2,(1984), pp.215-236.

'Tis from these our scandalous scandal most springs!
.....

The Amusement Club and the Medical Ball,
Civil Service dances, *et cetra,* near all;
Garland in *kala jaga e'en under the stairs!*
"Shameful, hidden, dark places", screened off for fond pairs.
Should official ones' wives interweave up places!
And so favour foul scandal's invented disgraces!"...[121]

Stolen kisses under the stairs, a school-boyish glee at creating scandals, the excitements of a cosmopolitan life without undue intrusion of natives –such were the attractions of Darjeeling to Europeans. For instance, to planters and civil servants in the tea districts of northern Bengal, even a brief sojourn at Darjeeling offered a respite from the daily monotony of their lives in the plains. John Tyson, who was posted at Jalpaiguri in the 1920s, described his return to Jalpaiguri from a trip to Darjeeling; 'back among the punkahs and mosquito-curtains-: or, what is worse, back among chocolate coloured Bengalis and a pile of law-books'.[122] W.M. Fraser, a planter in Terai, spent more than a month in Darjeeling after an attack of malarial fever. When he briefly contemplated emigration from the Terai, he was even offered a position in a tea plantation from Andrew Wernicke.[123]

2.8. 'Hill Diarrhoea': Construction of specific diseases for the 'hills'

One of the peculiarities of the uncontaminated hills discourse was the formulation of certain diseases that were supposed to be unique to the 'hills'. Certain diseases were noted and prospective visitors were advised on precautionary measures. A form of diarrhoea was 'discovered': hill- diarrhoea. This appears to have been a general aspect of mountain sanatoria all over the tropics. There were various debates about its nature in contemporary medical journals and as late as 1892 the etiology and

[121] Keble, *Darjeeling Ditties*, p.89.
[122] Letter from John Tyson, 29/10/1920 , Mss Eur E 341/2, (APAC).
[123] W. M. Fraser, *The Recollections of a Tea Planter* London 1935, pp.75-81.

cures for hill-diarrhoea were still being debated.[124] It was perceived to be a mild form of diarrhoea, not particularly damaging to the patient, so that 'the days grow into weeks and months before the patient seeks advice so little physical deterioration does the disease cause'[125].

Hill-diarrhoea, curiously, was supposed to occur not only in the Indian mountain sanataria, but also in Natal, and Hong Kong. James Cantlie, a doctor at Hong Kong, speculated that one thing common between the mountain sanataria of India, Natal, and the rocky height of Hong Kong had to be the elevation, even though Hong Kong did not rise above 1700 feet. Significantly, the European habitation in Hong Kong was in the highest part of the island.[126] Cantlie rejected a climatic explanation and tentatively attributed the diarrhoea to the drinking water.[127]

What is the significance of the discourse on hill-diarrhoea? On the one hand its diagnosis and nomenclature seem merely descriptive. However, it could also indicate a tendency to construct particularly 'hill' diseases because it was unacceptable that simple diarrhoea, an affliction sadly pervasive in the plains, should also invade the mountains. Eluding a strict definition, but indisputably present in every hill-station, 'hill diarrhoea' simultaneously subverted the idyll of the uncontaminated hill-station and served to keep the disease environment of the hills distinct from that of the plains.

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[124] Scrapbook compiled by James Cantile, The Wellcome Library MS. 6933, p. 54.
[125] Ibid.
[126] Any residence on an elevated space, even a mound, was preferable to the flat earth anywhere in the 'tropics'. At the turn of the century G. M. Giles wrote, 'For a single house, no better position can be selected than the summit of a mound, whether natural or artificial; and such situations are generally to be preferred to the slope of a hill...good examples of which are to be found in Chittagong, where nearly every European residence has its own little hill,...and it is doubtless to this ....that the comparative healthiness of the European population of the town ...is mainly due '. G.M. Giles, *Climate and Health in Hot Countries And The Outlines of Tropical Climatology: A Popular Treatise on Personal Hygiene in the Hotter Parts of the World, and on the Climates that will be with within them*, London, 1904, p. 2.
[127] Ibid.

Yet, the consequence of 'hill-diarrhoea' could replicate the aftermath of that tropical malady Europeans were fleeing- a general debility of the body. One medical author attributed the onset of debility once hill-diarrhoea progressed to its 'Cachectic' third stage.[128] He concluded that it could be permanently cured or improved 'only on change of climate'![129] Another contemplated an 'upper limit to the diarrhoea region', and recommended escape to heights above 12,000 feet to avoid hill-diarrhoea. [130]

The etiology of hill-diarrhoea was confusing but by the end of the century causation was settled on the levels of mica in the water supply. This suggests that a sanitary explanation was acceptable; the fact that it was seen chronologically, at least in the case of Darjeeling, which was earlier free of 'hill- diarrhoea', means also that the idea of gradual contamination of the pure mountains to some extent resolved the apparent paradox of the occurrence of 'hill-diarrhoea'. As a doctor practising in the Darjeeling hills wrote, 'Dr R. Lidderdale, the Sanitary Commissioner of Bengal, informs me, that he can recollect the time when Darjeeling claimed that it was the only hill station free from it.' [131] However, it appears to have been endemic from around 1874. The Sanitary Commissioner's theory was that ' it has followed the opening out of the country by destruction of forests, increase of population, and attendant evils'[132]. This was disputed by our author who favoured the idea that 'it has its origins in the liver and suppression of biliary secretions; this leads to food

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[128] W.G. Macpherson, 'Memorandum on Hill Diarrhoea and its treatment by perchloride of mercury', *Indian Medical Gazette,* Vol. XXII, July 1887, pp. 193-4.
[129] Ibid.
[130] 'The relation of elevation to hill diarrhoea', *Indian Medical Gazette*, August 1892, p. 254.
[131] Bishop, *Medical Hints for the Hills,* p. 20.
[132] Ibid, p. 21. See also, 'Report of the Sanitary Commissioner of Bengal for 1886, Government of Bengal Proceedings, Sanitary Dept, Dec.1887, No. 16-18, IOR/ P/2947, (APAC), p. 11.

being not properly digested, and subsequent diarrhoea' [133] He prescribed 'stimulating the liver with suitable remedies to increase the flow of bile', along with the intake of 'bland nourishment' for hill diarrhoea.[134]

That 'hill diarrhoea' continued to trouble Europeans in Darjeeling is evident, for the district gazetteer noted a few years later: 'The chief danger is of having hill diarrhoea, owing to the great difference of climatic conditions and carelessness regarding diet, clothing, and exercise.'[135] It became an accepted fact that most European visitors to Darjeeling would be susceptible to an attack of 'hill diarrhoea'. A history of Darjeeling first published in 1916 concluded:

> The chief and probably the only ailment from which new-comers suffer is the hill-complaint- diarrhoea. The ....malady has received due attention at the hands of medical practitioners, while many are the remedies prescribed for its treatment and cure; many also have been the theories advanced as the contributory cause. Among these the mica theory seems to hold its own, for without doubt mica has been found in suspension in our water-supply which is obtained from the springs at Senchal.[136]

There was never an established etiology of hill diarrhoea. As late as in 1947 the district gazetteer disputed the mica theory and instead attributed the causation of hill-diarrhoea to 'changes of climate and diet and more particularly to the error of overeating into which visitors are prone to fall due to the unaccustomed cold'.[137]

2.9. The 'Eden Sanatarium and hospital' in Darjeeling: Medicalized Leisure in a Colonial Enclave

The Eden Sanatarium was built in 1882, although it did not begin to function until 1884.[138] It was named after the Governor of Bengal, Sir Ashley Eden, at whose initiative it was instituted. One anecdote attributed the founding of the institution to

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[133] Bishop, *Medical Hints for the Hills*, p. 21-24.
[134] Ibid. p. 25.
[135] O'Malley, *Darjeeling*, p. 54.
[136] Dozey , p. 126.
[137] Arthur Jules Dash , *Bengal District Gazetteer: Darjeeling*, Alipore, 1947, p. 94.
[138] O'Malley, p. 188.

a personal encounter by Sir Ashley Eden with a European afflicted by pneumonia at the Darjeeling station one morning. The gentleman was leaving Darjeeling because he could not afford the accommodation available at the hill station. On enquiry later Sir Ashley was informed that the said gentleman had died on his way back to Siliguri. This brought home to him the lack of a sanatorium at in the town. Ironically, the gentleman had died of pthisis contracted in Darjeeling![139]

The institution was to benefit the increasing numbers of British planter families in the northern Bengal as well. When the Government of Bengal of forwarded the annual report of the institution to the Govt of India, next year, the Secretary to Govt of Bengal pointed out, that

> Sir Ashley Eden, ... was of opinion that, hospital accommodation should be provided, not only for tea planters and others employed in unhealthy localities in the Dooars and the Terai, but for patients and convalescents from the plains, who, from want of means, could not afford to take a sea-trip for the benefit of their health. [140]

The Eden Sanatorium set up with government funds and private subscriptions, including a generous one from the Maharaja of Burdwan. The total cost of the construction amounted to around two lakh rupees, of which the Government of Bengal donated Rs 52,000.[141]

The chief medical officer at the sanatorium was the Civil Surgeon of Darjeeling, who was provided with an extra remuneration of Rs 350/- per month for discharging his duties in that capacity and also to compensate him, because 'he suffers in private practice, inasmuch as most of the patients of the better classes who repair to

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[139] Dozey, *A Concise History of the Darjeeling District*, p.88.
[140] Government of Bengal Proceedings, Municipal/Medical, No.8-17, April 1886, P/2806, Asian Pacific and African Collection (Henceforth APAC), British Library, p. 37.
[141] Government of Bengal A Proceedings, Municipal/Medical Branch, 1881 (West Bengal State Archive, Henceforth WBSA), p.3.

Darjeeling...prefer to resort to the Sanitarium'.[142] The resident medical officer was generally a Military Assistant Surgeon. It was instituted as a charitable trust; thereby soliciting patronage of both the government as well as that of private industries. The regular subscribers to the institution were private industries, which included besides the railways, several European firms based in Darjeeling and Calcutta. The government of Bengal and particularly Sir Ashley Eden as the chief benefactor had the privilege of constituting the governing body. The very first governing body constituted of the Senior Secretary to the Govt of Bengal, present at Darjeeling, (Ex-officio president), the Commissioner of Rajshahi and Cooch Behar Division (Ex-officio Vice- President), the Secretary of Government of Bengal in the Public Works Department, the Deputy Commissioner of Darjeeling, the Agent, East Bengal Railway, the Civil Surgeon of Darjeeling, and two managers from the tea estates of Tukvar and Lebong.[143]

The Eden Sanatorium had four classes, rather like the railways. In a sense the sanatorium was a microcosm of the British society in India. The facilities available to the residents were according to a hierarchy- the first class patients had heating in their room and a separate dining hall, and urged to bring their own servants to wait on them during meal times. The Second class and Inter- class patients had a degree of privacy in their wards, whereas the third class ward contained four to six free beds instituted by private charity from various sources. These included concerns such as the Darjeeling Himalayan Railways, the Statesman newspaper in Calcutta , and various merchant firms at Calcutta and tea companies with plantations in Darjeeling. It is evident from the list that the constitutive body of the sanatorium

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[142] Government of Bengal Proceedings, Municipal/Medical, No.8-17, April 1886, P/2806, (APAC), p. 37.

[143] Government of Bengal , A Proceedings, Municipal/Medical, August 1881, (WBSA), p. 43.

overwhelmingly represented officialdom. However, an indication of the kind of patients expected at the sanatorium is to be had from the list: Europeans employed by both the tea companies at Darjeeling and the railways would comprise, it is reasonable to suppose, many of the patients at the sanatorium.

At the time of its foundation the government sent queries to the various hospitals in Calcutta enquiring whether their European and Eurasian patients would benefit from convalescence or treatment in Darjeeling. The responses were ambivalent and modest.

The principal of the Medical College at Calcutta wrote to say that he could not 'state definitely the extent to which convalescent patients from the Medical Hospital would require a transfer to Darjeeling' concluding that 'it would certainly benefit those suffering from functional disorders, weak digestions and other general ailments'.[144] The Superintendent of the Presidency General Hospital at Calcutta, on the other hand, though he could not give any estimates of the numbers of patients who would be likely to avail themselves of the sanatorium at Darjeeling, stated that he had 'often felt the need for such a resource' and had on many occasions had to 'send patients to sea whom he would have preferred to send to the Hills'.[145] Thus trips to the sea, could still be substitutes for the 'hills' in the late-nineteenth century. The Superintendent at the Campbell Hospital was against transferring any of his patients to Darjeeling, and wrote that after many years of medical experience in various hospitals in Calcutta he would not recommend a transfer to the hospital at Darjeeling for his European patients, 'as they would not only derive no relief from the change but would most probably be infected....by a transfer suddenly to a cold

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[144] Government of Bengal B Proceedings, Municipal / Medical , Oct 1881. File no 11, (WBSA), p.1.
[145] Ibid. pp. 1-2.

mountain climate like Darjeeling'.[146] The Superintendent of the Howrah hospital was not certain as to the 'use that may be made of the Darjeeling Hospital by patients from Howrah' but thought that if the proposed hospital did succeed in sustaining itself he would probably be able to send three or four patients in a year to Darjeeling.[147] The train companies were even more hesitant to endorse the project, for they were also required to subscribe to the venture. Indeed, as the first committee to report on the proposed sanatorium commented, the government grant would suffice merely to level the hill-top at the site.

Hence from the very inception there was an insistence on voluntary patients to the sanatorium. In 1908, the subscribers to the sanatorium included the Darjeeling Municipality, several of the tea gardens around Darjeeling, the Darjeeling Himalayan Railway, and a not insubstantial sum of Rs 262.5.3 from the Sunday Fund of the institution itself, encouraged by the committee and collected after Sunday mass by the chaplain.[148] There were at this time, six free beds in the sanatorium: some instituted by private grants, others set up by the institute itself. All the free beds were located in the third class. Each year there were four beds reserved for patients referred to the Sanatorium from the Presidency and Calcutta Medical hospitals. The Superintendent of the Sanatorium, who was always the Civil Surgeon of Darjeeling, had a free bed at his discretion. There were also beds available at concessional rates for employees of the commercial firms, banks and tea plantations which subscribed to the institution. This was utilised particularly be employees of

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[146] Ibid.
[147] Ibid.
[148] The idea of the 'Sunday Fund' was borrowed from the Victorian tradition of active charity – seeking hospitals in London. See Keir Waddington, *Charity and the London Hospitals: 1850-1898*, Woodbridge and Rochester N.Y., p.4.

the railways and the various tea plantations. Civil servants who earned less than Rs 300 per month were also eligible for the use of this space.

Initially, the hoteliers of Darjeeling who catered to European guests probably resented the institution, because the annual report of 1886-87 noted that 'The Committee are glad to observe that the boarding-house keepers...are beginning to see that the large number of these establishments in Darjeeling and the general badness of the times are the real resources of the difficulties they have to contend with and not the Eden Sanitarium'. [149] The next year the annual report repeated that the Eden Sanitarium did not directly compete with the boarding houses and hotels of the town.[150]

But notwithstanding the denials, it is evident that the institution was mainly a convalescent centre. A report to the government of Bengal in 1898 noted, 'In no.1. of the rules of the Eden Sanitarium it is stated that the institution is intended for the accommodation and care of Europeans residing in Lower Bengal, when overtaken by sickness or accident and to provide a comfortable home for convalescents after sickness'.[151] But the Superintendent of the Eden Sanitarium rued the fact that it was 'only the latter and secondary object which can be fulfilled with the present accommodation and establishment.'[152] The boarding- house aspect of the sanatorium was exaggerated by the fact that patients could be admitted by self-referral; moreover, relatives and friends of the patients were allowed to live with them within the sanatorium. From the beginning, the proportion of friends and relatives was very high. Between 1883 and 1886, the 'relatives and attendants' numbered a little more than one-third of the total inmates. By the end of the first

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[149] Government of Bengal Proceedings, Medical, No.1-3, Sep.1888, IOR/ P/3184, (APAC), p.136.
[150] Government of Bengal Proceedings, Medical, .No. 1-5, July 1889, IOR/P/3418, (APAC), p. 7.
[151] Government of Bengal A Proceedings, Municipal/Medical, Nov.1899, (WBSA), p. 135.
[152] Ibid.

decade of the twentieth century, the proportion of 'friends and relatives' was almost equal to the number of patients. [153]

In 1901 the 'hospital' section of the Eden Sanitarium was inaugurated. Through the next few decades there was a constant tension between these two roles of the Eden Sanatorium and Hospital. This pattern was repeated in the successive annual reports of the sanatorium. Throughout the next decade there was an attempt on the part the authorities of the sanatorium to promote and project the 'hospital' section of the institution with very modest success. It seems that the trajectory of the Eden Sanitarium and Hospital followed that of the town of Darjeeling itself in its appropriation of the medicalized space towards leisure and the creation of an enclave within an enclave.

A cursory glance at the list of afflictions suffered by the patients reveals the nature of the sanatorium: in 1909 there were nine cases of enteric fever, eighteen of malarial fever, forty four operations, mainly minor ones, and ten confinements. There were only six deaths, of which four patients died within twelve to forty eight hours of admission into the institute. The rest of the patients were admitted for anaemia and debility.[154] Though the figures above have been chosen randomly, the general trend from its inception to the third decade of the twentieth century was that the majority of the patients at the sanatorium suffered from ' anaemia and debility'.

The Eden sanatorium was more of a convalescent home than a hospital. Although the story of its genesis is linked to a medical emergency of an European individual, its chief function was that of a pleasant site for rest and comfort that was possibly sanitised and legitimised. What was the necessity for the institution of the Eden

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[153] Government of Bengal A Proceedings, Municipal/Medical, Aug 1909, (WBSA), p.1.
[154] Ibid, pp. 2-5.

Sanatorium in Darjeeling at all? To begin with, Darjeeling as we have seen developed as a retreat for Europeans from the plains. The entire space of the Darjeeling hills was thus both a site of exclusion of Indians and the domestication of the Himalayan landscape. In the context of Darjeeling, the sanatorium was thus a re-affirmation of the claims of the Europeans for an exclusive space that was both social and medical.

In nineteenth century England, the concept of a convalescent home seems at first glance not so very different from that of the Eden sanatorium. Florence Nightingale's notion of a convalescent home, for instance, was that 'it should not be like a hospital at all'.[155] In England generally the miasmatic theories dominant in the period led to convalescent homes being located in the country, as far as possible from congested urban centres and architecture tended towards the small, cosier structures. But when compared to the Convalescent Home at Chatham built in 1893 by John Belcham, for instance, which was a 'a Kentish vernacular with brick, tile hanging, small-paned windows and side-porch', all of which 'satisfied all the criteria of domesticity with a delightfully assured interpretation of "old English" elements', the architecture of the Eden sanatorium which had several turrets and gables, were very different and much more grandiose.[156] The difference also lay in the fact that the hospitals in late nineteenth century England, the emphasis on miasma and ventilation; on cleanliness and the separation of the sexes that were the characteristics of the 'Nightingale wards' were all directed towards the working classes and the poor. In the colonial context the class of Europeans who patronised the hill-station sanatoriums voluntarily were set apart by their race and wealth; the

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[155]Jeremy Taylor, *Hospital and Asylum Architecture in England 1840-1914: Building for Health Care,* London and New York, 1991, p.119.
[156] Ibid. p.123. See pictures of Eden Sanitarium, Darjeeling, in the Appendix.

'poorer' incumbents who were allowed beds on concessions earned Rs 300/-per month or a little less- a salary beyond the reach of most Indians. There was an attempt to distance itself from both the crowded native bazaar and also, intriguingly, the European Mall.

How significant was the sanatorium to the hill-station? The numbers and the flow of convalescents at Darjeeling seem to have been somewhat similar to those to the town itself, for the Colonel R. Macrae, the Civil Surgeon and Superintendent of Darjeeling commented in 1907,

> Since 1901, there has been an apparent tendency to decrease in the number of admissions. My predecessor thought it might be due to the competition of other hill stations now accessible by rail. Colonel Crofts, who officiated as the Inspector General of Civil Hospitals last year, also anticipated that the transfer of some of the neighbouring districts to the province of East Bengal and Assam might lead to a further fall in the number of admissions.[157]

He explained that partly the reason for the increase in the number of admissions to the sanatorium, was 'general complaints in respect to diet and discomfort' and that the Steward had been dismissed from service.[158] The Eden Sanatorium was more a comfortable hotel establishment than a medical one. It seems ironic, even ridiculous, that the Civil Surgeon of Darjeeling would find it necessary to commend improvements in the catering and waiting establishment of the sanatorium and regard them as effective determinants of the reputation of the sanatorium. This can be explained if one understands the function of the Eden Sanatorium in Darjeeling: as a centre for Europeans to socialise among their own kind at the same time as recuperating from the fatigue induced by the heat of the tropics. Both rest and socialisation were articulated in medical terms.

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[157] Government of Bengal A Proceedings, Municipal/Medical, July 1907,(WBSA),p. 15.
[158] Ibid.

British Indian society at the turn of the century had a notion of leisure that was distinct and recognisable. Indeed, the world of the sahib (and the memsahib) when the official was not on tour revolved round the club of the civil station which offered him the company of other Europeans, whisky, beer and gin; and afternoon tea, bridge, tennis, and the occasional cricket match. In the hill-stations these pursuits remained similar, and replicated much of the Victorian pleasures of the middle and upper classes- the amateur theatre, the occasional grand ball, the daily promenades on the Mall. The region around Darjeeling also inspired sporting men as much as it did naturalists. [159] It was also in the early nineteenth century that the idea of sport- was associated with leisure pursuits and a sporting world came to constitute the various outdoor pursuits of 'hunting, racing, shooting, angling, cricket, walking...'[160]

Peter Burke has identified four discourses of leisure in the early modern Europe: the educational, the legal and political debates on leisure, the religious-moral discourse, which identified leisure with waste of time and finally the medical discourse: which, in contrast to the moral discourse, emphasized the benefits of leisure in terms of gains in health, and the psychological necessity for rest and recreation. Another recurrent theme connected to the medical discourse on leisure was the 'need to drive away melancholy.'[161]

One of the attractions of the Eden Sanitarium as a centre for convalescence was the fact that the town – and within it, the institution itself had created an urban *social*

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[159] When the Darjeeling Natural History Society was founded in 1923, the articles in its short-lived journal comprised mostly hunting anecdotes by the planters in Darjeeling and Duars. For instance, see 'Game birds of Sikkim including the Darjeeling district and of the Jalpaiguri district, Bengal', *The Journal of the Darjeeling Natural History Society,* vol.1.no.1, 1926, pp.1-3 and 'Ethics of shooting game with aid of Artificial Light', p.8; 'Tiger stories, leopard stories; Two Incidents ', in ibid. vol. 2 no 1, June 1927, pp.15-17.

[160] Peter Burke, 'The Invention of Leisure in early modern Europe', *Past and Present,* No.146, 1995, pp. 136-150.

[161] Ibid.

space, critically new and demonstrably English. The older Presidency towns in eighteenth century India were colonial ports; however their native town components were large and fairly intrusive whereas Darjeeling was smaller in size and certainly more exclusive. But there was yet another cause for the popularity of the town, and also to the Eden Sanitarium contributed both to the European population within the institution and the Englishness of Darjeeling- the tea plantations around it.[162]

From the beginning, the British planters patronised the Eden Sanitarium, which had to remain open over the four winter months to accommodate them, the Civil Surgeon reminding the government that 'Many tea planters subscribe to the institution, and it is hardly to be expected that they would continue to do so if they were debarred from admission for nearly a quarter of the year'.[163] The tea estates depended on the Sanitarium for medical help and in 1888 the services of the doctors who had regularly attended patients in the tea estates (including the Civil Surgeon who had private patients) were 'dispensed with'.[164] Over the years the Europeans who sought refuge at the Eden Sanitarium were matched in numbers by the planters around Darjeeling who patronised the institution. In 1915, for instance, from a total of 607 patients to the hospital, the largest number, 166, came from Calcutta but there were a considerable number of patients from Darjeeling (137) from Jalpaiguri

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[162]A planter at Darjeeling, in a manual of instructions to new recruits to tea plantations, while informing them about the discomforts of the work also reminded them that living in Darjeeling would be almost like, perhaps better, than living in England; 'Western habits and Western social observances have become comparatively general in India, and the...consequence is that English people remain essentially English, and feel that with the Suez Canal and the Mont Cenis Tunnel, home is close at hand. The splendour of the native princes has well nigh died out of India, and the romance surrounding English life has also gone; and there remains a country near to England, although differing in itself, where Englishmen manage pretty successfully to live in a way that (with the exception of the numerous servants) fairly well resembles life in their own land'. See Samuel Baildon, *The Tea Industry: A Review of Finance and Labour, Guide for Capitalists and Assistants,* London 1882, pp. 38-39. Ironically, most of the planters were Scottish, not English.

[163] Government of Bengal Proceedings, Medical/Hospitals and Dispensaries, No. 16-18, Nov. 1887, IOR/ P/2946 (APAC), p.14.

[164] Government of Bengal Proceedings, Medical, Sep 1888 No. 1-3, IOR/P/3184 (APAC), p.136.

(near the Duars plantations), there were 6, from Kurseong there were 48, from Lebong 5, from various other plantations around Darjeeling, 11, from Siliguri 3, from Bagdogra tea estate, 2, from Teesta Valley, 1.[165] Most of the patients from the Darjeeling hill area were probably officials, as well as planters, railwaymen, and other non-official British who had settled in and around the Darjeeling hills. By 1916, the Eden Sanatorium emerged as the chief medical institution for Europeans of the entire area, including Terai and the Duars; the Terai Tea Planters Association began subscribing to the institution from this time.[166] In 1917, out of 544 patients, 177 were from Calcutta, and 91 from Darjeeling itself. There were 42 patients from various tea estates, besides 33 from Kurseong, 4 from Jalpaiguri, 5 from Lebong, 7 from Katapahar, 3 from Naxalbari, and 3 from Ghum.[167]

Although it emerged as the one hospital that the Europeans in the Darjeeling and even the Terai and the Duars area depended on medical cure, its chief role remained that of providing a medicalized space for leisure. The fact is apparent from the figures of patients admissions at the hospital in 1918; the total number of patients admitted to the sanatorium were 542, but admissions at the hospital were only 136. [168] Of the 136 patients needing care at the hospital, 17 were confinements, of which 16 were normal. The next large figure for a specific disease was 17 patients, treated for 'diseases of the digestive system', of whom 10 were understood to be cured, and 7 relieved. [169]

The figures of patients at the Eden Sanatarium did not reflect morbidity or mortality rates in general in Darjeeling. It functioned as an enclave within Darjeeling, catering

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[165] Government of Bengal A Proceedings, Finance /Medical (WBSA),1916, p. 58.
[166] Ibid, p. 54.
[167] Government of Bengal A Proceedings , Finance /Medical , Sep.1917, (WBSA), p. 157.
[168] Government of Bengal A Proceedings, Finance /Medical, Sep. 1918, (WBSA),p. 19.
[169] Ibid.

to the small section of Europeans who patronised it which included the British planters. The fact that though a private, charitable institution, it was funded by the Darjeeling Improvement Trust as well as the Darjeeling Municipality on a regular basis, and that among its patrons were included the Lt Governor of Bengal who paid a visit to the sanatorium at least once a year, indicates its symbolic significance in the context of the construction of a peculiarly European social space within Darjeeling.

1.10. The Practice of Settlement

Acclimatization had been an enduring concern of white settlement in the colonised world. It exercised the concerns of a host of scientists, medical men, geographers, administrators, military personnel and civilians in all parts of the world. The emphases on aspects of acclimatization changed over the centuries that spanned the debates themselves. The settlement of white men in the tropics raised issues in every Western empire. The answers varied from the West Indies to the Americas, and from Australia to India. D N Livingstone has made the point that in the debates on acclimatization, particularly after the germ theory and with the optimism of men like Sambon and Manson, the focus shifted in the twentieth century from the environment to the conquest of parasites and microbes.[170] Warwick Anderson has further argued that the advent of laboratory medicine in the twentieth century eclipsed the concept of acclimatization, instead the question of the survival of the white man in the tropics came to depend on the conquest of microbes -

[170] David N Livingstone, 'Tropical climate and moral hygiene: the anatomy of a Victorian debate' *British Journal of History of Science*, Vol.32 1999, pp. 93-110.

pathologising the native population and thereby rendering the white men in the tropics, separated and sanitised, further distant from the natives.[171]

However, a perusal of the historians' treatment of acclimatization makes it imperative to assume that the question remained the same: 'Whether, and in what manner was the white man to survive over two or three generations in the hot/tropical climates?' But in assuming this question, historians have neglected one aspect of the history of acclimatization. Through a historical analysis of Darjeeling this chapter has explored, not what the white man perceived as the threat to the survival of the race in the tropics, but what was the actual practice of settlement.

A shift to such a perspective is necessary to resolve the contradiction noted by Harrison : that it was precisely at the time of the pessimism about acclimatization and the hardening of racial categories (after the mid -nineteenth century) that the colonization of India was at its zenith. [172] The fact is that various kinds of settlement of white peoples of European origin occurred in various parts of the globe from the sixteenth century onwards: and the modes of settlement were of course different in every country.

In Queensland, Australia though workers' discourses incorporated the notion of 'white Australia' there were debates about using 'coloured labour under white leadership' to 'develop the Australian tropics' in the twentieth century.[173] These views were eclipsed in the rhetoric for a 'white Australia'. In Malaya or India there was no sustained settlement of the land as in the settler colonies: civilians and military personnel, planters and doctors left gradually after decolonisation. In India,

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[171] Warwick Anderson, '"Where Every Prospect Pleases and Only Man Is Vile": Laboratory Medicine as Colonial Discourse', *Critical Inquiry*, Vol.18, No3, 1992, pp. 506-529.
[172] Harrison, *Climates and Constitutions*, pp. 133-47.
[173] Warwick Anderson, *The Cultivation of Whiteness: Science, Health and Racial Destiny in Australia,* Melbourne, 2002, p.164.

Ceylon and Malaya, there was enough labour made available (mostly through the indentured system initiated by the colonial states) in the plantations. Though the debates on acclimatization encompassed the nineteenth and the twentieth century, with differing discourses: race, environment, anthropological debates on racial characteristics and 'seasoning', natural selection, the germ theory, immunisation of races, degeneration, and the pathologisation of certain races all playing its part in the debates, the key difference finally rested between the 'settler colonies' of North America and Australia, and the 'enclaves' of managerial control in the Indonesian islands, Ceylon, Malaysia, and the plantation areas in India.[174] The colonization of the Darjeeling hills and the Duars and the Terai through the last decades of the nineteenth century and the early twentieth century was effected in the context of the availability of labour on a large scale. Thus three factors were relevant to the colonization of Darjeeling- large parts of the Darjeeling area was settled by native immigrants from Nepal, the cheapness of the indigenous labour and the fact that though Darjeeling itself was relatively sparsely populated, in the larger context of India and Nepal there was no dearth of population. The native populations in south and south -east Asia were not overwhelmed or overlooked in the same way as the numerical smaller natives of North America and Australia.[175] Therefore the question of white settlement in the area was limited only to managerial positions. It is possible to argue, thus, that the discourses on acclimatization need to accommodate political and economic contingencies on the question of white settlement in the tropics.

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[174] Livingstone, 'Tropical climate and moral hygiene'. Also see Warwick Anderson, 'Immunities of Empire: Race, Disease and the New Tropical Medicine, 1900-1920', *Bulletin of the History of Medicine*, Vol. 70, No. 1, 1996, pp. 94-118.

[175] Anderson has made the point that ultimately in the Philippines the goal that the Americans set for themselves was to keep themselves apart from the pathologised indigenous peoples. Settlement was given up as a long term option in the twentieth century. See Anderson, *Immunities of Empire.*

The attempt to create European enclaves in the colonial tropics was a multifaceted endeavour. Once the idea of long term acclimatization was seriously challenged in the post -1858 era, in colonial India in the nineteenth and twentieth centuries there were attempts to create enclaves in various locations not only in the hill stations and they were articulated in medical, social, and sanitary and strategic terms. The layout of the hill- stations were different from the cantonments and 'civil stations' of colonial India. As Kennedy has pointed out, in the hill-stations British Indian architecture had freer expressions, with many houses with gables and turrets.[176] The cantonments and civil stations on the other hand, had wide straight roads and ordered residential bungalows and barracks. But despite dissimilarities in architecture and the lay-out between the civil stations and the hill stations, in crucial aspects the hill-stations after all duplicated the civil stations – their marked architectural difference and physical distance from native towns and settlements, plenty of free, airy spaces, and the availability of sewerage- all of which contributed to their perceived relative salubrity. So can the hill station be seen as a part of the continuum of the civil station, the civil lines, and trips to the sea and going home to England? It seems likely. The climate of the hill stations provided respite from the heat of the Indian plains to European bodies, but their settlement and colonization had greater economic implications. It was not a coincidence that planters in Darjeeling had a strident advocate of hill sanataria at various forums in the mid-nineteenth century in London, one Hyde Clarke, who termed himself 'Agent for British settlers in Darjeeling'.[177]

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[176] Kennedy, *The Magic Mountains*, p. 3.
[177] Hyde Clarke, 'Colonisation of British India' *Journal of the Society of Arts*, vol.7, 1859, p. 645. See also by same author, 'On Hill Settlements and Sanitaria', *Journal of the Society of Arts*, vol.17, 1869;'The English Stations in the Hill Regions of India: Their Value and Importance, with Some

2.11. Conclusion

How should we view the settlement and colonization of the Darjeeling hills in the late nineteenth century? One illustration will exemplify the processes that contributed to the colonisation of Darjeeling. In 1875, one Reverend Ayerst corresponded with the Government of Bengal on the subject of an European settlement near Sitong at Kurseong. His concern, he explained to the governor of Bengal, was 'the destitute condition of a large number of unemployed Europeans and East Indians scattered over the plains of India'.[178] He explained that 'the only way to raise them from pauperism and the influence of heathenism would be to gather them into the community of a Christian village with a quasi-English climate'.[179] He was given permission by the Bengal government to prospect for suitable land for a European farming settlement in the lower slopes of Darjeeling.[180] Ayerst contemplated that the proposed land, if granted by the government, would be divided into a 'Home Farm' specialising in dairy farming, as well as allotments of twenty acres of good farming land to all volunteer settlers. Though Ayerst had obtained an audience from the Governor and proceeded to prospect for a suitable stretch of hilly farming land, the Deputy Commissioner of Darjeeling confided his misgivings about the project to the Commissioner at Rajshahi, ' I have very grave doubts as to whether the project could be successful under any circumstances in any part of these hills....it is very unlikely that Europeans of any class could work....on

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Statistics of their Products and Trade, *Journal of the Statistical Society of London*, Vol.44, No. 3, (Sep. 1881), pp. 528-573.

[178] Letter from Deputy Commissioner, Darjeeling to Commissioner of Rajshahye and Cooch Behar Division, 15 April 1876,Government of Bengal A Proceedings, General Department, June 1876, (WBSA), p. 107.

[179] Ibid.

[180] Ibid, p.108.

the hill side during the rains without serious danger to their health'.[181] The prospect of Europeans, even the indigent and the supposedly consequently immoral ones, undertaking hard manual labour in any part of the tropics was impossible. But significantly, when Ayerst was refused the grant of land from the government of Bengal a few months later, he was informed that

> ...the Lieutenant Governor is unable to perceive any sufficient ground for anticipating that the project could be undertaken; or that...it could succeed...
> .... Among many other objections there is this, that almost all the available lands in the Darjeeling district have been taken up for tea plantations or cinchona plantations or Government forest reserves...
> .... If persons with some little means were to obtain small grants of land, whereon to settle, experience in Darjeeling shows that such grants gradually become absorbed into larger properties belonging to capitalists or to companies.[182]

Thus while the fact that acclimatization theories were not in favour in the late nineteenth century was a reason for refusing permission for a European farm in the Darjeeling hills, the government also emphasised the fact that the entire area was already appropriated within the larger colonial economy. Within a few decades of their annexation into British India, the Darjeeling foothills were taken over by tea plantations interspersed with stretches of 'reserved' forest'. A larger European or Anglo-Indian settlement, the dream of an eccentric clergyman, could not be granted official sanction or assistance. Ironically, at the time of its settlement, Hodgson had contemplated that a settlement of Europeans of a poorer class in Darjeeling hill areas would offer the opportunity for a fresh start to impoverished Europeans; it should, he had pointed out, be 'a perfect godsend to the peasantry of Ireland and Scotland'.[183]

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[181] Ibid, p.109.
[182] Ibid. Letter from Officiating Secretary to Government of Bengal, to the Rev. W. Ayerst, 15 June 1876, p.111.
[183] Hodgson, 'On the Colonization, Commerce, Physical Geography etc. of the Himalaya, p.20.

There was a paradox therefore, in the construction of a European enclave in Darjeeling. Kennedy has addressed this duality by arguing that the nature of the colonial bureaucracy, and the domestic life of the ruling class in colonial India demanded the labour and skills of Indians who by their very presence disrupted the idyll of a sanitary, European enclave in the hill-stations. My contention is that the European enclave, so far as the hill-station of Darjeeling was concerned, contended with tensions of a different order. The larger colonization and settlement of the Darjeeling hills was reflected in the urban settlement of Darjeeling. The tea plantations, with their British planters and Paharia labourers, contributed to the growth of population within the entire area, and thereby to the congestion of the idyllic spaces around and within the hill-station of Darjeeling. As is demonstrated above, the settlement of Darjeeling from its very inception was based on logistics that included the presence of large numbers of natives. They served eventually, not only as domestic labour for the Europeans, and as clerks for the civil administration, but as plantation labourers in the tea estates. The growth of Darjeeling and the discrepancies in medical discourses about its efficacy as a health resort; the establishment of the Eden sanatorium, its emergence as a social space rather than a strictly curative one; all of these trends need to be understood in the context of one salient fact. That is, the enclave of the Darjeeling hill station was articulated and even desired but at its heart lay another pattern, also of colonial origin: the establishment of a plantation economy. That is the paradox of the enclave of Darjeeling: its greater logic could not accommodate with any integrity its original raison d'etre. In that sense, the idea of a European hill- station was an anomaly.

The hill-station of Darjeeling was an ostentatiously European social space. Its spacious bungalows, hotels, Mall and clubs; its picturesque views, special municipal

provisions, such as piped water from reservoirs and exclusive medical institutions such as the Eden Sanatarium, marked it out as an area of special privilege in sharp contrast to the lack of sewage, drinking water, and medical institutions that was prevalent in most of *moffusil* or urban sites in colonial India. Throughout the colonial period, Darjeeling would retain this air of exclusivity, of clean streets and a functional municipality, and access to well-maintained medical institutions, though its specific European composition would be challenged by the Indian elite.

The hill station of Darjeeling was one aspect of the construction of a European sanitary enclave in colonial north Bengal. The other aspects were reserved forests and the tea plantations that appropriated the entire Darjeeling hills area, rendering the Reverend Ayerst's project of settling Europeans there impossible. The plantations, mostly managed by British planters and supervised by British doctors, but employing large numbers of tribal and low-caste labourers, were enclaves of large–scale colonial capital in northern Bengal. The tea plantations, for different reasons, emerged as exclusive sites where medical research could be pursued with relative ease, as the labourers lived in a confined area. They dynamics of following preventive health measures were also different in the sites, where planters' authority was supreme and the government's bureaucratic machinery played a secondary role. In that sense they too were 'privileged sites' of medical practice.

Chapter 3

Pioneering Years in Plantation and Medicine

3.1. Introduction: The Plantation Enclaves in Darjeeling, Terai and Duars

The town of Darjeeling and the convalescent depot at Jalapahar were medicalised retreats in European enclaves. The tea plantations that provided much of the economic vitality to the region had a considerable presence in the town. Prominent planting families were contractors for government buildings, owned shops catering to European consumer goods, and in spite of the minute gradations in British Indian society, participated in many of the social events of British society in the town. For many planters in Darjeeling, Terai and Duars, proximity to the hill town was a relief- they could send their children to school, and their wives for confinements to the hill station.

The planters and doctors lived within the tea estates for their working lives. Historians of the tea plantations in Assam and Bengal writing on the labour movements in the area, have validated the understanding of tea plantations as enclaves of a particular kind, isolated sites where the labourers had little freedom of mobility, and where the rule of the planter was sovereign, even in the non-contractual northern Bengal tea plantations.[1] The enclaved aspect of the tea estates also had particular historical impact on their preventive health and the development of medical infrastructure. Particularly their remote location, the difficulties of the terrain, and the nature of the plantation economy and the supportive but the distant

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[1] Amalendu Guha, *Planter-Raj to Swaraj: Freedom Struggle and Electoral Politics in Assam 1826-1947*, New Delhi, 1977, pp.40-45. See Ranajit Das Gupta, *Economy, society and politics in Bengal: Jalpaiguri 1869-1947,* Delhi, 1994, p. 69.

role of the colonial state informed medical practices and provisions for labour health in the plantations. Due to the system of non-contractual labour, at least till the turn of the century they provoked little interference from the government. In that sense, they were enclaves of colonial capitalism and of distinct habitation- in different ways, for the management as well as the labourers. This influenced the context of medical care in the plantations in the pioneering, foundational years. In this chapter I will first delineate the expansion of tea plantations in the three distinct tea growing regions of northern Bengal. Next, I will examine the contexts of healthcare and medical practice in the plantation at the time they were initially set up.

The beginnings of the colonization and settlement of Darjeeling and Terai in northern Bengal in the nineteenth century was discussed in the preceding chapter. The extension of British territories in northern Bengal by the accession of western Duars from Bhutan after 1865 led to the formation of the district of Jalpaiguri in 1869, and the emergence of a new tea industry after 1874. This newly acquired territory, Duars, (later western Duars, to distinguish it from the neighbouring tract in Assam) emerged as the site of tea plantations, claimed for the most part from forests interspersed with villages where small communities of Meches and Garos who practised shifting cultivation and herded buffaloes, while a few villages had a settled population of Rajbanshis and Meches who cultivated paddy. [2]

In 1864 the first Conservator of Forests in Bengal was appointed. In the next few decades several plans for the management and consolidation of the forests of Darjeeling and Duars for timber were drawn up and executed. In Darjeeling the settlement of the area involved the gradual displacement of the Lepchas with

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[2] Subhajyoti Ray, *Transformations on the Bengal Frontier, Jalpaiguri 1765-1948,* London, 2002, pp. 21-22.

migrants from eastern Nepal and parts of Bhutan. In both the areas the parts of the districts that were not reserved for forests were parcelled out as 'waste-land' to tea companies at nominal rates of revenue. Some of the land was also settled for *jotedari* tenure where *adhiars* cultivated jute and rice under the *jotedars.* Throughout the nineteenth century the area under the plough and the tea estates expanded; as did its population. While most of the *jotedars* were initially composed of agrarian entrepreneurs from the neighbouring districts of Dinajpur and Rangpur and *adhiars* from the neighbouring Cooch Behar, over the decades much of the land was held by ex-tea garden labourers who often worked under their *sardars* who owned *jotes* near the tea estates. While the Meches gradually migrated eastwards into the district of Goalpara in Assam, Oraons and Santhals Mundas from the district of Chotanagpur migrated to western Duars to work on the tea estates.[3]

The period when forests were being cleared and the tea bushes planted, with labourers requisitioned through sardars (recruiters) from the catchment areas, can be described as the 'pioneering years'. The layout of the tea estates and their management structure was borrowed from previous experiences of tea planting in Assam, but was distinct in one particular feature: the recruitment of non-indentured labour.[4] The first commercial plantations were laid out in Darjeeling around 1856, but new plantations continued to mushroom in certain parts of western Duars in the first two decades of the twentieth century. I have found it analytically useful to examine medical practice in the plantations areas in the 'pioneering years' across

[3] For the commercialisation of agriculture in colonial Bengal, see Sugata Bose, *Peasant Labour and colonial capital: rural Bengal since 1770*, Cambridge, 1993, pp. 45-65. The argument of increasing differentiation in the agrarian peasantry is borrowed from Ranajit Das Gupta, *Economy, society and politics in Bengal: Jalpaiguri 1869-1947,* Delhi, 1994, pp.29-52 and Ray, *Transformations on the Bengal Frontier*, pp. 142-8.

[4] Assam tea was first successfully manufactured in 1837. The Wastelands Rules of 1838 and 1854 facilitated the commercialisation of large tracts of land for tea cultivation in Assam. The Workmen's Breach of Contract Act of 1859 facilitated the immigration of labourers from outside in the Assam tea plantations. See Guha, *Planter-Raj to Swaraj*, pp. 12-18.

the period, because they had similar characteristics: remote, often inaccessible locations, large groups of immigrant labourers who lived in settlements under the watch of their sardars, and the ad hoc nature of medical care. The contexts of medical care in the pioneering years were similar in all the tea plantations as were the principles on which the system of medical care was initially set out.

Both the western Duars and Darjeeling (which district included the Terai) were Non-Regulation tracts, where the ordinary laws passed in Bengal were not applicable until a special order from the Governor of Bengal was passed. The administrative executive in charge of the district therefore was not the District Magistrate, as in most other districts, but the Deputy Commissioner, invested with greater civil authority than the District Magistrates in the Non-Regulation districts.[5] This was a significant factor in aspects of disease management within the plantations, for the district officer –in- charge often had a freer hand in making decisions in the Non-Regulation tracts. The tea plantations within Non-Regulation tracts were under an administration that could make immediate decisions, and district administrators who had social interactions with the plantation management, (or at least the British component), on a regular basis. On the whole, however, the district officers were usually content to let the plantation managers take responsibility for law and order within the tea estates.

One instance of how the relegation of authority of the district administration to the management of the tea plantations could influence issues in health and habitation within the plantations at a basic level was the registration of vital statistics within the plantations. The Chaukidari Act was not applied within the tea estates; the

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[5] Tanka Bahadur Subba, *The Quiet Hills: A Study of the Agrarian Relations in Hill Darjeeling*, Delhi, 1985, pp.39-40; Das Gupta, *Economy, society and politics*, 1994, p. 7.

managers assumed responsibility for the registration of vital statistics.[6] When the provincial government sought to extend the provisions of the Chaukidari Act to the tea plantation areas of Darjeeling, Terai, and Duars in 1893, the Darjeeling and Duars sub-committee of the Indian Tea Association protested vigorously. They represented to the Governor of Bengal that 'the intrusion of *chaukidars* appointed by the district commissioner is unnecessary and harassing'.[7] The tea estates, even in the tea plantations where labour was non-indentured, monitored the movement of people within their boundaries. In Duars, Terai, and Darjeeling, this was to limit as much as possible the migration of sardars with their coolies en masse to other plantations, limit the interactions of workers with potential 'political agitators', and to circumscribe the role of government in the administration of the plantations as much as possible.

The district administration relied on the management to provide them with the vital statistics, and as we shall see later (chapters 4 and 5), some kind of inspection was introduced in the Duars in 1912 only after two reports seriously implicated the plantation management in the neglect of registration of vital statistics in 1912. In the Darjeeling and Terai, there were no such rules for allowing independent government inspections on a regular basis. Both practicalities of administration and a social link with many of the planters informed the government-plantation interactions at the district level. This facilitated a great degree of trust between the district officials and the European planters. Interaction between European planters and British officials

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[6] The village *chaukidar* (watchman) was appointed under the provisions of the Village Chaukidari Act 1870, (Bengal Act VI of 1870). The Births, Deaths, and Marriages Act (1886) extended to the whole of British India. Under the Act every birth, death and marriage had to be reported to the proper authority. 'However the reporting was voluntary not compulsory,' Kabita Ray, *History of Public Health : Colonial Bengal 1921-1947*, Calcutta, 1998, p.40.

[7] See Chairman's address, *Detailed Report of the General Committee of the Indian Tea Association for the end of 1893 with the proceedings of the Annual General Meeting of April 1893*, Calcutta 1893, p.iv. (Henceforth *ITA A.R.*).

was frequent and everyday events whether at social venues in Darjeeling town or polo at the Jalpaiguri club. This facilitated easy communication and trust. For instance, when the Manager of Fagoo Tea Estate wrote to the Deputy Commissioner of Darjeeling to confirm a grant of lease even though he did not have fifteen per cent planted with tea, he added a post-script about his holiday fishing in Hertfordshire.[8] John Tyson, posted at Jalpaiguri in the 1920s, who made careful distinctions between shades of white among British officials, was comfortable at planters' football matches in the Duars.[9] This easy source of patronage was a source of resentment for the Indian planters.[10]

Several physical factors contributed to the relative freedom of the managers in the tea plantations from government interference. The tea plantations were situated in isolated areas, in a terrain that was broken by seasonal streams and rivers and interrupted by jungles. This made access to the areas difficult and time consuming, to be avoided unless strictly necessary. Even more crucially, the management of the tea gardens were fiercely protective of their autonomous space and guarded against outsider interference: governmental, medical, or any other. As we shall see in this and the following chapters, this autonomy was both created and sustained in the context of the physical territory of the plantations as well as through the accumulation of their knowledge of the land and the labourers who lived and worked on that land.

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[8] Letter from Manager, Fagoo Tea Estate, Sailihat, 6 Nov.1899, to Deputy Commissioner Jalpaiguri, District Magistrate's Record Room, Darjeeling, General Dept, Collection No II, (Settlement), File No. 2.
[9] Ray, *Transformations on the Bengal Frontier*, p.92.
[10] B.C.Ghose, *The Development of Tea Industry in the District of Jalpaiguri 1869-1968*, Jalpaiguri 1970, p. 34.

Plantation autonomy had other dimensions. In the Duars, both European planters and medical officials volunteered in the North Bengal Mounted Rifles, (NBMR), an armed force that was created by the government to defend the frontier against incursions from Bhutan. The NBMR was also used by the planters to discipline and curb the mobility of labourers.[11] Within the plantations, police interference was rare, the management preferring to settle disputes internally. The district police were usually called in only in cases of rioting, which were rare though not entirely absent in both Duars and Darjeeling.[12]

The characteristics of plantation management and economy- of which autonomy and enclaved situation were such prominent features, influenced their healthcare and medical infrastructure and were occasionally the source of contention with government. As the plantation areas expanded their profits and output rose, so did their populations, changing both their requirements for medical care and the extent of government interventions in public health in the plantations.

3.2. Growth and Expansion of Tea Cultivation in Northern Bengal: Darjeeling, Terai, and Western Duars

As early as 1834 a Tea Committee was appointed by the Governor General William Bentinck to 'inquire into and report on the possibility of introducing the cultivation of tea into India'.[13] After a few aborted experiments, a tea *garden,* as it was termed, was established in Sibsagar in Assam, which was later sold to the Assam tea company in 1840.[14] Jayeeta Sharma has argued in the case of Assam that, the

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[11] Das Gupta, *Economy, society and politics*, p. 68.
[12] J.C. Arbuthnott, *Report on the Conditions of Tea Garden Labour in the Duars of Bengal, in Madras, and in Ceylon,* Shilling, 1904, p. 9.
[13]. W.W. Hunter, *A Statistical Account of Bengal, Vol.X., Districts of Darjiling and Jalpaiguri, &State of Kuch Behar,* London 1861, p. 164.
[14] Ibid, p.165.

nomenclature 'garden' implied an ordering and claiming of the land from forest, an articulation of the dichotomy between civilization and the wild, uncivilized.[15] I have found it more useful to stay with their formal nomenclature of tea estate, which reflects on the social relations of production within the plantations.

There were a few attempts to establish tea gardens in Darjeeling 'sometime previously to 1853', but according to W. W. Hunter, the 'real date of commencement of the industry may be taken at 1856-67'.[16] As shown in the previous chapter, with some initiatives from the Superintendent of Darjeeling Campbell, who nurtured tea seeds and plants in Darjeeling and distributed them to anyone who wished to cultivate them, and with the policy of grant of lease of land for tea at nominal costs (a feature of tea industry in Assam and Duars and Terai as well) the commercial manufacture of tea in Darjeeling took off in the mid-nineteenth century. The gradual conversion of land to tea cultivation, occurred through European enterprise, comprising to a great extent of retired officials- civil, medical and military personnel as well as entrepreneurs such as Johanne Wernicke[17]

The tea industry in Darjeeling attracted diverse entrepreneurs; but they were all Europeans. The availability of land at nominal prices attracted European entrepreneurs. The first leases in 1858 were given out as 'farming leases' for a period of fifty years, at a rent of eight annas per acre after five years.[18] The first Waste Land Rules in Darjeeling district were formulated in 1859 when large tracts of land was sold by government at auction as 'waste-land' at the nominal price of Rs

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[15] Jayeeta Sharma, 'An European tea 'garden' and an Indian 'frontier': the discovery of Assam', Occasional paper no 6, University of Cambridge, Centre for South Asian Studies, Cambridge, 2002.
[16] Hunter, *A Statistical Account of Bengal*, p.165.
[17] E.C. Dozey, *A Concise History of The Darjeeling District with a Complete Itinerary of Tours In Sikkim and the District*, (Second Edition), Calcutta, 1922, *A Concise History of The Darjeeling District*, pp. 196-7.
[18] L.S.S. O'Malley, *Darjeeling*, Calcutta 1907, pp. 189-90.

10/- per acre, as free-hold.[19] Between 1859-61 some 9000 acres of waste-land was sold. In 1861, the 'fee-simple' was introduced, whereby waste -lands were regarded in perpetuity as 'heritable and transferable' property, subject to no enhancement of land revenue; and there was no condition 'obliging the grantee to cultivate or clear any specific portion within any specific time'.[20] The Waste Land Rules permitted large -scale speculation because only fifteen per cent of the lease had to be under tea. Land was claimed and staked out but often not cultivated. In the 1860s, speculations, partially laid out tea gardens, and the prospect of huge profits and quick money without going through the process of actually growing and manufacturing the tea were common, and a contemporary planter remarked that:

> At Darjeeling, where Tea cultivation, ... walks forth with giant strides across the hills, you will find generally that there are two utterly distinct systems carried out; one for those plantations which, like the peddler's razors, are intended for sale; and one for those which are intended, if possible, to pay; these latter are somewhat in the style of the Assam Gardens; [21]

Planters' memoirs from Darjeeling give some idea of the individuals who formed the planters' community in Darjeeling, Terai and the Duars. The Werner –Stolke family, ex-missionaries and contractors in the first generation, were planters in the second generation. Both the Wernicke brothers joined as assistant managers in the Tukvar and the Makaibari tea gardens in 1865-67. Soon they leased plantations of their own, with land offered at 'quite a nominal figure'; at Lingia, 550 acres were obtained for Rs 60 (£40), which had comprised partly of 'native cultivation, chiefly of maize, and partly jungle'.[22]

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[19] Ibid, p. 190.
[20] Ibid.pp.190-1.
[21] E.F. Bamber, *An Account of the Cultivation and Manufacture of Tea in India, From Personal Observation,* Calcutta, 1866, p.1.
[22] 'The Wernicke – Stolke Story', Mss Photo Eur 421, (APAC), p. 10.

In 1864 government introduced leases in Darjeeling for tea for a period of 30 years, the land being rent free for the initial five years, and then an annual rate of 6 annas per acre on the whole area under lease.[23] Despite a slump in the tea industry in India between 1861 and 1866, the acreage in Darjeeling continued to expand and tea plantations expanded to the Terai.[24] The Waste Land Rules were further amended in 1882, and finally in 1898 when preliminary leases were given only after the lessee showed that he had enough capital to develop the land, and after five years a 30 year lease was granted in perpetuity on condition of cultivating tea in at least fifteen per cent of the land.[25] The following chart delineates the growth of the tea industry in Darjeeling[26]:

Table 3.1 Expansion of Tea Gardens in Darjeeling

Year	Number of gardens	Extent of land cultivation(acres)	Outturn in Pounds.(lbs)	Number of labourers
1866	39	10,392	433715	N/A
1867	40	9,214	582,640	N/A
1868	44	10,067	851,549	6,859
1869	55	10,769	1,278,869	7,445
1870	56	11,046	1,689,186	8,347
1871	N/A	N/A	N/A	N/A
1872	74	14,503	2,938,626	12,361
1873	87	15,695	2,956,710	14,019
1874	113	18,888	3,927,911	19,424

(Source: W.W. Hunter, *A Statistical Account of Bengal, Darjeeling and Jalpaiguri*, Vol. X, London and Edinburgh, 1875, p.165).

The increase in both acreage under tea as well as production of tea, as well as the numbers of labourers needed in the tea gardens in the tea estates between 1866 and 1874 was spectacular. Not all the land leased to a tea company was used for tea

[23] O'Malley, *Darjeeling*, p.191.
[24] Percival Griffiths, *A History of the Indian Tea Industry*, London, 1967, p.88.
[25] O'Malley, *Darjeeling*, p.192-3.
[26] Hunter, *A Statistical Account of Bengal*, p.165.

cultivation; some parts lay fallow and forested, and its products were used for various purposes from making tea chests to providing firewood for the labourers settled in the estates.[27] The labourers needed for the expansion of the industry were generally Nepalis of various communities- Mangars, Limbus, Rais, etc. who migrated from eastern Nepal. As discussed in the previous chapter, migration was actively encouraged by the government. From the beginning, the relatively easy access to labour facilitated a system of free rather than indentured labour. Historians have pointed out that 'unlike Assam ....Darjeeling from the very beginning had an abundance of cheap labour' from Nepal, and the migration was further encouraged by the economic pressures on the poor peasantry in eastern Nepal.[28] This was extremely useful for the tea companies because immigration from Nepal was far simpler than the system of importing indentured labourers from the tribal areas of Chota Nagpur and Santhal Parganas that was prevalent in Assam.

As I have indicated above, the pioneering, entrepreneurial years in Darjeeling lent opportunities to Europeans from various classes and backgrounds to find an occupation and settle in Darjeeling and in Terai. This also led often to involvement in tea plantations, either as assistant managers and managers in the Agency Houses or as owner-planters. Later many of the owner-planters turned to the large agency houses for financial support and some sold their plantations or formed joint stock companies.[29] The agency houses recruited European managers to the plantations; the

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[27] This scheme of lease of large tracts of land of which only a portion would be used for tea, while the rest of the produce of the land given to tea companies for the free use of timber, firewood, land for their labourers and grazing had also been taken from the Assam model. In Darjeeling, fifteen per cent of the land leased had to be under tea for the renewal of the thirty year lease. In Assam the proportion was a quarter of the land to be under tea in the first five years. Guha, *Planter Raj to Swaraj*, p. 13.

[28] R.L. Sarkar and Mahendra P. Lama (ed.), *Tea Plantation Workers in the Eastern Himalayas- A Study on Wages, Employment and Living Standards* 1986, p. 5. See also Subba, *The Quiet Hills,* p. 14-15.

[29] Amiya Bagchi, *Private Investment in India, 1900-1939*, London, 2000 (1972), pp. 161-162.

owners in the Darjeeling plantations too were all European. The established English ambience of near-by Darjeeling lent a comfortable prospect to work on the tea estates in the surrounding areas.[30]

The tea planters of Darjeeling formed an association of employers in 1873, which was formalised into the Darjeeling Planters' Association in 1892. The Darjeeling Planters' Association affiliated itself to the principal body of tea producers in India, the Indian Tea Association, in 1910.[31] However, from 1892 onwards there was a Darjeeling and Dooars sub-committee in the Indian Tea Association, where the concerns of the Darjeeling, Terai, and Duars tea planters were voiced and represented.[32] From the high slopes of the Darjeeling mountains, where the first tea bush was planted by Campbell at 7000 feet, the success of the earliest tea plantations led to the expansion of the tea plantations to the lower slopes, and later on to the foothills of the notoriously unhealthy Terai. [33] At the turn of the century the slopes and the drier tracts of the Terai were cleared for tea gardens as well as the cultivation of rice and other crops such as maize and potatoes. In the first settlement of the Darjeeling Terai, made by Campbell in 1853, grants of land were given out to settling cultivators for ten years.[34] Several grants for tea were made out at the same time under Waste Land Rules, as they had been in Darjeeling, and in 1863 they were leased out for tea cultivation, the leases running for thirty years. The Settlement Officer noted in 1929 that 'at least' from 1880 onwards, the tea estates had to pay a very low rate of lease at Re 1-8 annas per acre of lands actually under tea, which could be as little as fifteen

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[30] Samuel Baildon, *The Tea Industry: A Review of Finance and Labour, Guide for Capitalists and Assistants* London 1882, pp. 35-39.
[31] *The Darjeeling Branch Tea Association 1873-1973*, Mss Eur F/174/685, (APAC).
[32] Ibid.
[33] Griffiths, *The History of the Indian Tea Industry,* p. 88.
[34] J C Mitra, *Final Report on the Survey and Settlement Operations in the Darjeeling Terai, 1919-25.* Calcutta 1927, p. 21.

per cent of the area actually leased out to the tea garden.[35] The actual numbers of tea gardens and acreage under tea in the Darjeeling Terai is difficult to estimate because they were enumerated with the tea gardens in the Darjeeling hill area, both being included for administrative purposes, in the district of Darjeeling. In 1925, though, the acreage under tea was 18,467.55 acres, and formed twenty two per cent of the total area under jotes and grants.[36] The labour in the Terai plantations comprised both Nepali labourers and those hired through contractors from the Chota Nagpur and Santhal parganas areas. The Terai Tea Planters' Association, the body intended to represent their interests to government, and to facilitate recruitment of labour from the catchment area of Chotanagpur, was formed at the turn of the century, 1901-02.[37]

The western Duars was that part of the Duars, which after its annexation into British territory was formed into the new district of Jalpaiguri in 1869. A section of the Jalpaiguri district incorporated older, settled territory, which differed little in topography, cultivation, or in any other way from the neighbouring districts of Rangpur and Dinajpur. The remainder was newly annexed area following the Anglo-Bhutan war of 1865. Here the agrarian system of revenue collection was different from the rest of Bengal; the government chose not to implement the Permanent Settlement that had been implemented in the rest of Bengal, and instead negotiated directly with the peasants.[38] Thus, in Jalpaiguri and the western Duars, the government was the *zamindar* (landlord). This, however, did not imply that the peasantry in colonial Duars was undifferentiated. Rather, as large parts of the lands hitherto cultivated by the local Mechs (who were pushed further east into eastern

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[35] Ibid, p29.
[36] Ibid, p13.
[37] 'History of the Terai Planters' Association and the Terai Branch Indian Tea Association', cyclostyled manuscript, (Terai Branch of Indian Tea Association Office, Bengdubi), n.d. p. 1.
[38] Das Gupta, *Economy, society, and politics*, p. 27.

Duars, Goalpara in Assam) were taken over by the *jotedars*,(peasant-cultivator) in the course of the nineteenth century the differentiation among the peasantry between the bigger *jotedar* (peasant-landholder) and the *adhiar* (sharecropper) increased . Through the nineteenth century into the first decades of the twentieth, when the final settlement for the region was made, sub-infeudation of cultivable lands occurred at several levels leading to a hierarchy of peasant-landholders between the *jotedar* and the *adhiar* such as the *chukanidar* and the *dar-chukanidar*.[39] Commercialisation of land occurred at a rapid pace after the annexation into the British territories. The author of the district gazetteer commented in 1911 that

> Few districts in India have developed as rapidly as the Western Duars. The northern tract along the base of the hills, between the Tista and the Torsha rivers, is now covered by prosperous tea-gardens, separated only by rivers or occasional areas of reserved forest; east of the Torsa the chain of tea gardens continues right up to the Sankos river, but is broken up by larger stretches of forest. South of the tea gardens as far east as the Torsha river,... nearly the whole of the land is under cultivation and grows magnificent crops of rice, jute, tobacco, and mustard... even in this remote part of the district, cultivation is increasing fast, and the jungle disappearing rapidly.[40]

The first tea plantation in western Duars was leased to Dr Brougham, 'an old hand', who had planted out one of the first tea gardens in Darjeeling. His assistant was one Richard Houghton, listed in the district gazetteer as the pioneer of tea in western Duars.[41] The land for the tea gardens in the Duars after 1896 functioned under the Waste Land Rules, similar to the rules in the Darjeeling district. The lessee paid a fee of Re 1 per acre as the cost for a survey, and then obtained a preliminary five year lease, which was 'rent-free in the first year, 3 annas per acre in the second year and an additional 3 annas for each successive year up to 12 annas an acre'.[42] After five years,

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[39] Ray, *Transformations on the Bengal Frontier*, pp. 161-2.
[40] John F Grunig, *Eastern Bengal and Assam District Gazetter* Allahabad. 1911, p. 3.
[41] Das Gupta, *Economy, Society and Politics,* p.56.
[42] Grunig, *Jalpaiguri,* p.85.

if it was confirmed on inspection that at least fifteen percent of the land was under tea cultivation; the lessee was entitled to a thirty -year lease to be renewed in perpetuity.[43] The rents for tea lands in the Western Duars were much lower than the rates for revenue rates in the district. [44] Moreover, the lessee was charged land rent for only the portion of land that was planted with tea, the rest of the leased land being classified as'waste' land. Apart from the value of forest produce, used both for production of tea and by the tea estate labourers, this left the lessee with the option of extending acreage under tea without paying rent for thirty years after the survey.[45]

In 1878, within four years of the first grant of lease, the 'Dooars Planters Association', (DPA) a body of European planters was established.[46] Several tea estates in Duars, and Darjeeling were owned by agency houses like Duncan Brothers or Octavius Steele.[47] There were however, also, a number of European–owned smaller tea companies in all the tea districts. Unlike the Darjeeling area, where the tea plantations were, 'conducted almost entirely by means of English capital and under skilled European supervision', from almost the very beginning it involved Indian entrepreneurs.[48] In 1879 a group of Bengali professionals, mostly lawyers based in

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[43] Ibid.
[44] Das Gupta, *Economy, Society, and Politics*, p. 58.
[45] Ray, *Transformation on the Bengal Frontiers,* p. 76.
[46] *Dooars Branch Indian Tea Association, 1878-1978, Centenary Annual General Meeting .n.d* .(DBITA Office, Binnaguri), p. 1.
[47] At the turn of the century, the agency house of Duncan Brothers, for instance, controlled twenty five tea gardens with a total acreage of 18,690 acres of tea. Griffiths, *A History of the Indian Tea Industry*, p. 117. Bagchi has noted concentration of capital in coal, jute and tea, the principal industries in eastern India under British managing agencies, with interlocking directorships, market-sharing, and control of labour supply. Bagchi, *Private Investment in India,* pp. 170-181. After 1914 Indian entrepreneurships challenged the managing agencies' monopoly in jute and coal, but not in tea. See Omkar Goswami., '*Sahibs*, *Babus*, and *Banias*: Changes in Industrial Control in Eastern India, 1918-50', *The Journal of Asian Studies*, Vol. 48, No. 2 (May, 1989), pp. 289-309 .At its height the Indian ownership of the plantations did not exceed one-fifth of the total acreage in Duars. In Darjeeling, where the less lucrative Terai tea estates were located, British firms sold the less profitable tea gardens to Indian entrepreneurs. But the overwhelming majority of acreage under tea were under British ownership.
[48] Quoted from the *Imperial Gazetteer of India*, Provincial Series, Bengal, Vol. 2., Calcutta 1909, p. 201.

Jalpaiguri formed a joint stock company, the Jalpaiguri Tea Company, and petitioned for a lease for a tea garden.[49] In this venture they were encouraged by an Indian official, Bhagaban Chandras Bose, who was at that time a Deputy Magistrate at Jalpaiguri.[50] The lease of the first Indian managed tea garden, the Mogalkata Tea Estate, of 741 acres, was eventually granted in 1881. Several more Indian companies procured leases and established plantations. However, the acreage under Indian entrepreneurship remained small in comparison to that of the European managed tea gardens. The Bengali entrepreneurs were often in competition with the European tea companies, and the nature and content of the conflicts were often articulated in racial terms; the Bengali planters feeling very keenly their lack of capital and resenting the comparative ease with which the European planters had access to government officials and support.[51] The DPA did not have any Indian managers or companies among its members, although from around 1917 it began to invite a few Indian planters as guests to its annual general meetings. The Indian entrepreneurs formed their own organisation, the Indian Tea Planters' Association.[52] As one Indian planter recounted,

> In 1918 the Jalpaiguri Tea Planters felt the need of an Association exclusively for the purpose of looking after the interest of the Indian Tea Planters; for the English Planters....the DPA.....refused to give equal rights to Indian planters ....in matters of common interest. In fact an Indian Tea Planter in those days had to get down from his pony or tandem (a two

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[49] Ghose, *The Development of Tea Industry*, p.14.
[50] Kamakhya Prosad Chakraborty, *Shekaler Jalpaiguri Shohor Ebong Samajik Jibaner Kichu Katha*, Jalpaiguri, n.d. p. 22.
[51] Amiya Kumar Bagchi has argued that the agency houses which controlled British capital in colonial India set themselves as socially and culturally distinct from native entrepreneurs in the twentieth century, and was supported by sections of the administration. See Bagchi, *Private Investment in India*,p.28. However, not all the planters joined the ITPA initially; there was a Hindu-Muslim divide, with Nawab Mosharraff Hossain, a *jotedar* and planter, staying away from it. He joined the ITPA at a later stage. See *Indian Tea Planters' Association Golden Jubilee Souvenir*, Jalpaiguri, 1965, (ITPA Office, Jalpaiguri), p. 10.
[52] *Indian Tea Planters' Association Golden Jubilee Souvenir*, Jalpaiguri, 1965, pp. 25-30.

-wheeled vehicle driven by a horse) if an English planter came in the same road from the opposite direction.[53]

The racial indignities suffered by the largely educated and westernised class from which the Bengalis planters were drawn gave an edge to the rivalries between the DPA and the ITPA. There were areas of conflict and direct competition among the two employers' bodies, especially when it was a question of the defection of labour from European tea gardens to Indian ones. But the two bodies also co-operated on various issues; especially in negotiations regarding medical policies and sanitation within the estates.

The tea plantations were mostly responsible for populating the Duars from the last decade of the nineteenth century and changing its demography permanently. The emerging public health and sanitation concerns of this region were shaped as much by these demographic changes as by the perceived unhealthiness of the site. The tea plantations in the Duars, unlike those in Assam, did not employ indentured labour. Like the Terai tea gardens, the Duars tea estates also at first recruited Paharia labourers, but with rapid expansion soon had to recruit from the same areas as the Assam planters: the Chota Nagpur and Santhal parganas.[54] The recruitment from specific regions is significant because certain racial typologies regarding the workers' bodies in terms of susceptibility to diseases, work and immunity were constructed and sustained throughout the colonial area and even beyond.

The element of non-contractual labour is important in Duars as well as in the Darjeeling and Terai, because of the fact that labour in the region was free enabled the government to avoid interference within the plantations. In addition this form of

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[53] Ghose, *The Development of Tea Industry*, p. 80.
[54] Griffiths, *A History of the Indian Tea Industry,* p.115.

recruitment gave the Duars tea plantations a morally elevated position in the context of the coercion practised by the neighbouring Assam planters.[55] In Darjeeling the labourers were, as stated, immigrants from eastern Nepal. In the Terai region too labour was free, and initially Nepali immigrant labourers worked in the foothills. Only later, on in the twentieth century, did the Terai Planters Association recruit labourers from the Chota Nagpur and Sonthal parganas areas through the Tea Districts Labour Association. The Duars, where the local population were thought to be both inadequate in numbers and unwilling to work in the tea plantations, used immigrant labourers- the tea estates close to the foothills used Paharia labour, while the rest recruited labourers from Chota Nagpur and Santhal Parganas through *sardars*.[56] Due to the absence of a contract, the labourers was considered to be free this informed all official understandings between the tea plantation management and the district administration. For instance, in 1895 when a government enquiry into the mode of recruitment through the *sardari* system in Assam was initiated due to the unfair and coercive means adopted by the recruiters, the Darjeeling, Terai and Duars were exempted from close scrutiny.[57] The Commission noted that since labour here was free, 'very little action on the part of Government is, at present, necessary.'[58] The free labour situation meant that for a long time there were no

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[55] Griffiths noted both the facts that the Duars was closer to the recruiting districts than Assam and that 'the experience of the disadvantages of the penal contract which had been gained by planters in Assam' probably contributed to the system of non-contractual labour in the Duars. See Griffiths, *A History of the Indian Tea Industry*, pp. 284-285.The planters in Darjeeling had petitioned for a 'limited' contractual system. However the nationalist agitations on the coercion and gross abuses of the system in Assam probably deterred the government from contemplating any legislation.
[56] Grunig, *Jalpaiguri,* pp. 107-9.
[57] *Report of the Labour Enquiry Commission*, Calcutta 1896 (APAC), p. 51.
[58] Ibid.

properly enforced vital statistics recorded within the tea plantations in Duars, Darjeeling or Terai.[59]

In Duars as well as Terai, the tea estates, though grouped within their respective Planters' Associations, faced chronic labour shortages and often poached labour from among themselves; the frequent migrations of the labourers from one tea garden to another made the calculations of immigration within the tea gardens very difficult. This, with the additional factor of the autonomy of the plantations in the matter of keeping records of its vital statistics, in all the three tea producing regions, made records of birth, death, and sickness rates within the plantations impossible to verify independently. Nor was there any pressing need to do so. Without reliable vital statistics- and in the absence of government intervention at the district level to enforce a system of accurate recording of vital statistics, preventive health care in the form of systems of sanitation, clean water supply, or vaccinations were missing. The lack of legislation or government interventions at the district level sustained a system of healthcare in the plantations that was ad hoc and the responsibility of individual managers. The rapid increase in population within the tea estates (and in the villages outside, where tenant-cultivators flooded in to grow rice and jute) in the late nineteenth and early twentieth centuries changed the demography of the district drastically. The Deputy Commissioner of Jalpaiguri informed the Labour Enquiry Commission in 1895 that 'Between 1881 and 1891 the population of the western Duars of Jalpaiguri and the Darjeeling Terai increased by 124,809 people, or 50 per cent, whereas the total average of Lower Bengal showed 7.3 per cent of increase'.[60]

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[59] In 1911 the district gazetteer of Jalpaiguri stated the government's position; 'With free labour it is unnecessary for Government to reserve the right of inspection, or in interference in the matter of wages, tasks, or the general management of estates'. Grunig, *Jalpaiguri*, p. 9.

[60] Grunig, *Jalpaiguri,* p.9.

Table 3.2 Expansion of Tea Gardens in the Duars[61]

Year	Number of tea gardens	Total Area under tea (in acres)	Aprox. Production (lbs)	Number of labourers
1874	1	-	-	N/A
1876	13	818	29520	N/A
1881	55	6230	1027116	N/A
1892	182	38583	18278628	N/A
1901	235	76403	31087537	68619
1907	180	81338	45196814	N/A
1911	191	90859	48820637	75315
1921	131	112688	43287187	88564
1931	151	132074	66447715	112591

3.3. Habitation and Health Care in the Plantation Enclave : Paternalism and Amateurism

In the pioneering years the system was little interfered with by the colonial state. Most tea garden records have not survived, and there is often little mention in government records precisely because government interference within the plantations occurred only in moments of crisis. Surviving management sources, however, allow us to examine this world. Although the Duars' Planters' Association published its correspondence in year-books, the Terai and Darjeeling associations did not do so, and information about them is scarce, to be gleaned occasionally from government archives or from their correspondence with the Indian Tea Association. However, with a few minor differences, the conditions in the pioneering years remained similar in all the tea plantations.

Initially, all the plantations had a frontier settlement feel to them. This lasted, in the case of the Duars, till the 1920s because new tea- gardens continued to be opened out in the eastern parts of the district. In the pioneering years habitations within the

[61] The source for this information is from Ranajit Das Gupta, *Economy ,Society and Politics*,p.57.

plantations were non-existent or rudimentary for the labourers. The managers and assistant managers would be accommodated in roughly constructed bungalows, usually at the centre of the tea estate.[62]

When a new garden was opened out, the planter in charge might camp out in the rough until his bungalow was built; on occasion assistants had to share bungalows.[63] The habitations were segregated along racial lines; with the management in bungalows at the centre, the Indian staff (clerks and the resident doctor, who were generally Bengalis) in smaller houses, set apart from the managerial bungalows as well as the coolie lines, which were further separated into clusters according to their tribe and community. The coolie lines, as the labourers' habitations within the tea estates were called, were usually located at the margins of the tea estate boundaries. Claud Bald, whose manual of instruction for tea planters in India went through several reprints, recommended that:

> If possible, coolies should be located in villages at various points on the estate, rather than congregated on one or two points only. There are various reasons for this. It is much easier to control and restrict the scope of any epidemic which may break out at any time if an affected village can be immediately segregated from the rest...It is also an easier matter to deal

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[62] W. M. Fraser, *The Recollections of a Tea Planter*, London 1935, pp.45-6.

[63] Such initial rough living conditions for the planters were usually romanticised in planters' records. One anecdote is worth presenting here; published in the *Indian Planters' Gazette,* it recounted both the experience of building a house from scratch and the fact that bungalow was transplanted at a fresh site for another planter later; 'It was about six years ago that a certain planter was ordered to go and open out a garden in a wild region of forest, jungle and hill torrents. He went, and pitched a small tent in the very heart of the forest, and there lived for two months under canvas, amidst the widest scenery and jungly aborigines. He got together a lot of coolies, and commenced the planting of the tea bush. When he had matters in fair train, after a couple of months of hard toil, he bethought himself of building a bungalow. He thereupon cut up the forest trees he had felled, and laid the foundation of his house by putting into the ground the piles upon which it stands. This done, he had to cut the grass for the roof. After which he stripped jute ribbons from the canes and made himself ropes for the purpose of binding the bamboo framework, for, be it noted, that irons and nails were not to be had... this bungalow is still in existence, but it has been removed bodily from its original locality, and now adorns another garden', quoted from *The Indian Planters' Gazette and Sporting News*, January 1924, (APAC), p. 17.

> with any insubordination or disaffection, if the labour force is divided up variously [64]

The workers were expected to build their own huts with materials provided from the plentiful resources of the estate forest-lands. G.G. Webb, who served in several tea estates in the Duars between 1908 and 1948, commented that 'In those days thatch was to be had for the cutting, and bamboos, if not grown on the Estate, was very cheap, and jute, to be converted into string, could be obtained from the smallest smallholders who all grew the crop'.[65] The workers lived in *coolie lines* which were distinct for each community.

Initially medical care for the management was probably not available immediately in the plantations. When Ashley Eden proposed the establishment of a hospital for Europeans in Darjeeling in 1881 he had in mind the fact that it would be very useful to the planters not only in Darjeeling but also 'tea planters from the unhealthy Dooars and Terai'.[66] In 1888 Bishop noted that planters were 'often situated away from European medical advice'.[67] This referred to conditions in all the planting districts, including Darjeeling, Terai and the Duars. Bishop recommended that each planter should ensure a 'monthly visit from the doctor' which was very likely to be included in the private practice of doctors stationed in Darjeeling and Kurseong.[68]

So far as the labourers were concerned, an anonymous planters' manual written by a Darjeeling planter as a guide for inexperienced planters is instructive. It pointed out that 'Although most gardens have a Doctor, who visits when called for, the coolies

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[64] Claud Bald, *Indian Tea: Its Culture and Manufacture, Being A Text Book On The Cultivation and Manufacture of Tea,* Calcutta 1917, (Third Edition), p. 302.
[65] Typescript titled 'TEA', Mss Eur C474, (APAC), p. 5.
[66] Memorandum by Ashley Eden, 11 June 1881, Govt of Bengal A Proceedings, Municipal Dept Medical Branch, 1881, (WBSA), p. 5.
[67] S.O. Bishop, S.O. Bishop, *Medical Hints for the Hills,* Darjeeling, 1888, p. 113.
[68] Ibid.

will, in most cases, have to be doctored by the Planter'.[69] The manual went on to provide a list of ailments coolies were likely to suffer from and recommended remedies the planters could provide to the workers. The list helpfully concluded with the note that 'For coolies only a few simple remedies are generally employed and in most cases, if they are not cured by the first or second dose, they will not come again, and ...the stronger a remedy the more a coolie will believe in it'.[70] The manual listed certain medicines that the planter could administer himself:

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[69] Anonymous, *Notes on Tea In Darjeeling By a Planter,* Darjeeling, 1888, p. 77. The influence of 'heroic medicine' in the use of calomel is apparent in the manual for estate owners. For another instance of a planters' manual which contains a list of home prescriptions, see A.F. Dowling, *Tea Notes,* Calcutta 1885, pp.36-40. Such manuals and 'homemade remedy books' were in common use in the slave plantations in the plantations of Southern USA in the antebellum period. But while white and black herbalism borrowed from each other in the American South, there is little evidence of British tea planters or doctors borrowing cures from indigenous practitioners of medicine. See Sharla M. Fett, *Healing, Health, and Power on Southern Slave* Plantations, Chapel Hill and London, 2002.
[70] *Notes on tea in Darjeeling,* pp. 77-78.

Table 3.3 List of ailments and their cure

Medicine	Used For
Bicarbonate of soda	Dropsy, Stings of mosquitoes and wasps
Carbolic Acid	Disinfectant, ulcers, scabies, with oil for burns.
Chlorodyne	Dysentry, Diarrhoea.
Castor Oil	Purging.
Cholera Mixture	Cholera, Dysentery.
Camphor	Cholera, Dysentery, keeps away fleas, toothache.
Antidysentric pills	Dysentery
Tincture of Kino	Diarrhoea and pyrosis
Epsom salts	Purging
Jalap	Dropsy and Purging
Alum	Astringent, good for leech bites, Emetic
Friars Balsam	Cuts
Aconite	Rheumatism, neuralgia and toothache
Arnica	Bruises and sprains
Phenyle	Disinfectant, slight sores
Podophyllin	Sluggish liver
Quinine	Fever and tonic, neuralgia
Santonine	Worms
Zinc ointment	Ulcers, foul sores
Ipecacuanha	Emetic, cough, dysentery, stings of insects
Ammonia	Headache, bronchitis, Hornet or snake stings
Borax	Sore throats, skin diseases
Cardamoms	To prevent griping
Glycerine	Dressing for wounds, slight sores

(Source: *Notes on Darjeeling Tea By A Planter*, Darjeeling 1888, pp. 77-8.)

The manual and its nature of instruction had a feel of 'self –help', a kind of 'domestic' amateurish health care instruction, which replicated the paternalism of the relationship between the planters and their labourers. The workers might occasionally have had other ideas about the bracing effects of strong medicine. The correspondence of Arthur Story, a young graduate from Edinburgh who was invited to join a tea company practice in the Duars, and wrote detailed letters to his mother in England, gives a few rare glimpses to the workers' response to medicines from the doctors in the plantations. As a 'European' doctor, he generally was medically consulted by the planters and their families. [71] In a few instances he referred to having treated individual workers. He once noted that his gardener had 'a slight dose of fever and like all these natives thought he was going to die at once- he refused to take any medicine and ran away'.[72] In another instance a worker needed a surgery on a gangrenous leg, though it is not clear who was to perform the surgery. In any case, the afflicted worker preferred not to be treated; 'One man has an awfully bad leg which should come off but the old fool refuses to have it done- so there is nothing for it but to let him die.'[73]

In some tea estates, there were 'doctor babus'- so called to distinguish them from the British qualified European doctors. The doctor babus were Indian medical practitioners employed to look after the medical care of the labourers. Their qualifications and expertise were limited; if not obscure. After the Bengal Medical Registration Act of 1914 was passed, it was found that all but three had not acquired

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[71] Arthur Story's letters are available in typescript form at the APAC, British Library, London. See Mss Photo Eur 275. The term 'European doctor' was used for white doctors who were all British and who shared the same social spaces with the planters.

[72] Ibid. Letter of Arthur Story to his mother from Bhogotpore Tea Estate, Bengal, 20 Oct, 1891, p.305 of typescript.

[73] Ibid. Letter of Arthur Story to his mother from Bhogotpore Tea Estate, Bengal, May 9 1891, p.296 of typescript.

their medical degree from a recognised institute.[74] They were, in fact, like many of the medical practitioners in the rural areas of the province of Bengal, who were not practitioners of any of the indigenous systems of medicine but went by the title of *daktar* (a Bengali transliteration of 'doctor') signifying practitioners of western medicine.[75] In the early twentieth century, the pioneering babus who risked the disease, wilderness and the insecurities of life under the sahibs were not qualified medical men. In a candid admission, an Indian planter of Jalpaiguri noted that, 'In the early days no university educated men were available to work in tea gardens....Doctors were manufactured *in situ* by training intelligent officers in the rudiments of medicine. So afterwards a doctor could become a garden manager'.[76] He referred possibly only to the Indian plantations, but the non-recruitment of qualified doctors was universal. In European tea estates however Indian doctor babus were not promoted to managerial positions.

The tea plantations were generally sites of amateurs, who were supposed to pick up skills in the course of the discharge of their duties. The district gazetteer of Darjeeling emphasised in 1907 that the planter had to 'combine, as far as possible, the knowledge and skill of an agriculturist, engineer, and architect, and even, to some extent, of a

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[74] *Annual Report on the working of the Jalpaiguri Labour Act for 1914-15,* Calcutta 1915, (APAC), p.5. (Henceforth *ARWJLA*).

[75] In 1913 when the provincial government sought the district officers' opinion on the Bengal Medical Registration Bill (passed in 1914), the district magistrate of Dinajpur, neighbouring Jalpaiguri, suggested that it should be applicable to municipalities, not rural Bengal, and pointed out that '...an exception will have to be made in respect of the word "Doctor". The word has been universally adopted in the vernacular as meaning any man who professes to treat his patients according to European methods...is used more as designating a profession than as a title, and it would, I think, be hardly possible to penalise its use by any class of medical professionals.' See Letter of officiating commissioner, Rajshahi Division, to Secretary to Govt of Bengal, Municipal Dept, 16 August 1913, Govt of Bengal A Proceedings, Finance /Medical, November 1913, (WBSA), p. 119.

[76] Ghose, ' The Development of the Tea Industry in the District of Jalpaiguri: 1869-1968', *Jalpaiguri District Centenary Souvenir,* Jalpaiguri, 1970, p. 292.

doctor;'[77] The fresh recruits in the tea plantations were generally innocent of knowledge or training about tea planting. Probably that was the reason that a number of manuals for instructions to planters proliferated at the end of the nineteenth century. The author of one manual of instructions to new recruits to the tea industry in India remarked on the recruitment of men who had no particular profession or skills to the tea plantations:

> During the last few years, the Indian tea districts have come to the notice of people in England, satisfactorily in a two-fold measure- as a field for capitalists, and as a working sphere for many young fellows who could not get into the right thing at home.... They have not felt good enough for the Church, not studious enough for the Bar, and although they might have managed to pull through the years necessary to the practice of medicine, and eventually pass, they would ... find ...lacking the capital ...for a fair professional beginning.... For many such, the districts have solved the problem of what to do.[78]

When the planters were not dispensing medicines themselves the doctor babus were expected to look after the Indian staff and the workers. In 1904 a report on the conditions of labour in the Duars stated,

> Most gardens have a resident native doctor. European Medical Officers reside in the sub-districts, and are in charge of a number of gardens, but the European is not retained on account of the coolies, nor is attendance to the labour force regarded as his legitimate work, though he would be called in to attend to a serious case or in the event of an epidemic.[79]

While British doctors were generally in charge of the Europeans and also in some kind of a supervisory charge over the doctor babus- their practice ranging over several plantations, labourers were referred to them only in case of extreme urgency or unusual symptoms. In general, between a few overworked doctor babus and a distant British doctor who merely intervened in cases of epidemics, many labourers

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[77] O'Malley, *Darjeeling,* p.109.
[78] Baildon, *The Tea Industry*, pp. 35-6.
[79] Arbuthnott, *Report on the Conditions of Tea Garden Labour in the Duars,* p.8.

probably resorted to their spirit-ousters and medicine men for their daily medical care.[80]

3.4. A Pioneering British Doctor

The letters of Arthur Story provide many insights into the daily life of a British doctor who practised in the tea estates of Duars. The principal duties of a European doctor in tea districts were of a supervisory nature, except in the case of the illness of Europeans. As Story wrote to his mother on arrival at Duars, 'My duties are to go to each garden once a week if possible to see that things are all right and that they have a proper supply of Medicines and call up the Baboo doctor and if he has any special cases among the Coolies make him show them to me.'[81]

In the initial years the European–owned companies combined to recruit one doctor to serve over several tea-gardens. Conditions differed from one tea estate to another, and generally and unsurprisingly, labourers suffered more than the managerial staff. In 1890 for instance, the 'Annual Garden Report' of the Dooars Tea Company, which at that time owned the Bamandanga, Tondoo, Ghatia, Nagrakata, and Indong tea gardens, (neighbours of the tea gardens owned by Octavius Steele, where Arthur Story practised), noted that 'Our native staff suffered from influenza somewhat heavily. But the European escaped entirely. The year has been described as a very unhealthy one because of the prevalence of fever and

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[80] This is a surmise, because there is no mention of the role of *bhagats* or *ojhas* in therapeutic care either in government documents or in planters' memoirs.
[81] Typescript of letter from Arthur Story from Looksan Tea Estate, May 9 1891, to his mother at Clifton, Mss Photo Eur 275, (APAC), pp. 295-6.

fifteen Europeans dying. But as far as our company is concerned, it has been a healthy year for us'.[82]

It appears, though, that not all the tea gardens, even European ones, initially subscribed to pay an European doctor: Arthur Story recounted that if he were called to an emergency in one of the gardens which did not regularly subscribe to pay him, he could charge a great deal extra for his services; he charged a patient who broke a collar bone at polo Rs100 for setting it and Rs 50 for every subsequent visit.[83]

It also appears from his letters that the system of payment or indeed of dispensation of other necessities for the newly arrived doctors were not formalised in the initial years. Like the owner- planters in the pioneering years in the Darjeeling and Duars, the European medical officers, (as they were called to distinguish them from the resident Indian doctor babus), were medical entrepreneurs. Story described the practice of his mentor, one Dr Hawkins, who at the time of Story's arrival, looked after the huge number of thirty two tea gardens. The task of overseeing several tea gardens at the same time had its special lucrative returns, 'he is occasionally called in to other Gardens which he does not get a monthly retaining fee from and for such visits of course he can charge what he likes, I know he gets over Rs1,000 a month from the Gardens he attends regularly, about £700 a year.'[84]

Hawkins was an entrepreneur himself, much like the planter class. He owned shares in tea estates and a soda-making factory, a profitable enterprise in a planting district where whiskey and soda was a favourite among the hard drinking planters.

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[82] Typescript titled 'Annual Garden Report, Dooars Tea Company, 1890', Mss Eur E 279, (APAC), p.2.
[83] Letter of Arthur Story to his mother in England from Bhogotpore Tea Estate, May 9 1891, Mss Photo Eur 275, (APAC), p.298 of typescript.
[84] Ibid. Letter from Arthur Story, Bhogotpore Tea Estate, 20 October 1891, p. 303 of typescript.

> I know he has got shares in more tea gardens which must have cost him a pretty penny- he draws at the rate of Rs 1,035 a month for retaining fees alone, besides outside fees and in addition they are talking of starting a dispensary at Dam Dim and he was offered that as well- and this year he started a soda water machine and is supplying the district with aerated water out of which he makes a good profit.[85]

The system of private practice for medical officials serving the tea-gardens on contract continued throughout the period. In the twenties there were a total of nine European medical officers for the hundred-odd European tea-gardens. John Symington, who served in the twenties as a medical officer to a group of nine tea gardens remarked that 'Medical practice on the tea gardens was by contract and my duties were clearly defined. Medical work outside the tea gardens was private practice, and such practice was not to interfere with my duties on the tea gardens.'[86]

Meanwhile, in the 1890s, prospects for an enterprising doctor stretched to positions in Assam, or partnerships in private practices in the hill-stations around. Story pronounced himself satisfied for the present, 'I am drawing more pay than an assistant does in England to start with, and I expect I shall be able to save nearly £100 a year.'[87] His own contract stated that his practice would become his own, without payment to Hawkins or anyone else, after three years. Story stated that after ten years in the district, his mentor Hawkins was comfortably off and willing to sell his practice and go back home to England. Story had an offer from Hawkins who wished to sell his practice; he also had offers from Assam and from an English doctor at Kurseong to join his practice.[88] Finally however he decided to stay where

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[85] Ibid. p.304 of typescript.
[86] John Symington, *In a Bengal Jungle, Stories of life on the tea gardens of northern India*, 1935, Chapel Hill, p.11.
[87] Letter of Arthur Story to his mother from Bhogotpore Tea Estate, 20 Oct 1891, Mss Photo Eur 275, (APAC), p.303 of typescript.
[88] Letter of Arthur Story to his mother from Nagrakata, Sep 4, 1894, Mss Eur 275, (APAC), p.372 of typescript.

he was, for his total earnings were not inconsiderable and he considered his prospects bright.[89]

Like most tea planters in northern Bengal in the nineteenth century whose prosperity increased with the growth of the tea industry, a European medical officer in a Duars plantation too had rosier prospects in the Duars than he would have had at home. According to one estimate an assistant in an English practice (which was roughly Arthur Story's position) would earn a net income of £300 /- per annum after five years.[90]

The long-term prospects within the profession in India where a Medical Officer could, like Hawkins, with medical and non-medical entrepreneurship earn a thousand pounds a year and contemplate retirement in ten years, would have been lucrative. As Douglas Haynes has pointed out, the Colonial Office could recruit and dictate terms to medical graduates at the turn of the century because the profession was getting overcrowded at this time in Britain.[91] An appointment to the Indian Medical Service was more secure, prestigious, and lucrative than the offer of an appointment in a tea district in India.[92] However, the plantations offered better

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[89] Ibid. p.373 of typescript.

[90] Anne Digby, *Making a Medical Living: Doctors and Patients in the English Market for Medicine 1720-1911*, Cambridge 1994, p.143. The following table is from the source mentioned above.

Table : Estimates for medical incomes in 1878 (in UK)

Period after qualifying	Gross income £	Net income
Immediately	150-400	-
1 Year	25-150	-
1-5 Years	400-500	300
8 Years	600	-
10 Years	450-1500	200-1400
25 Years (age 50)	1000-1700	800
35 Years (age 60)	600-1200	470-1000

[91] Douglas M Haynes, *Imperial Medicine: Patrick Manson and the Conquest of Tropical Disease* Philadelphia, 2001, pp. 126-138.

[92] A recruit to the Indian Medical Service around this time would be paid Rs 420 per month, 'nearly double his market value at home'. See Harrison, *Public Health in British India,* 1994, p.11.

prospects to an adventurous young medical man from Britain than those available at home.

Even though he was concerned about his prospects in the long run, Arthur Story declined an offer to go to a tea company practice in North Sylhet.[93] He was made another offer but dismissed the idea of going to join a doctor who had opened a sanatorium in Kurseong.[94] He suffered periodically from fevers, and had to take two long trips: once by river to Goalunda, (Assam) and once to the sea at Ceylon to recover from his fevers. He considered himself, and fellow Europeans at some risk of death from fevers, but not enough to abandon Duars altogether.[95] He died in November 1894 of heart disease and kidney failure, which, according to the Civil Surgeon of Jalpaiguri was exacerbated by fever.[96]

3.5. Conclusion: Disease and Pioneering Plantation in the 'Unhealthy' Terrain

The pioneering years was the time of opportunity and entrepreneurship for the European doctors. They were also the years of high deaths rates and fatalities. At this point, the relative lack of communication and the remote location of the tea estates meant that therapeutic facilities when available, were rudimentary and ad hoc in all the three tea districts, even for the management. The pioneering years come across in the records of the planters as one of difficult conquest of a wild country- in both the 'healthy' hills and the 'unhealthy' foothills in the Terai and the Duars. To the amateur ornithologist and planter of Darjeeling Mandelli, the

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[93] Letter of Arthur Story to his mother from Looksan Tea Estate, Nov 6, 1892, Mss Photo Eur 275, (APAC), p.331 of typescript.
[94] Ibid. Letter of Arthur Story to his mother, from Nagrakata, 4 September 1894, p. 372. of typescript.
[95] Ibid. Letter of Arthur Story to his mother, from Looksan Tea Estate, Nov.6 1892, p.331 of typescript.
[96] Ibid. Letter of D.P. Thompson from Looksan Tea Estate to Mrs Story, 20 January 1895, p.379 of typescript.

hardships of a planters' life, the vagaries of climate, an epidemic among his coolies and his wife's illness- all seemed equally fortuitous:

> I can assure you, the life of a Tea Planter is by far from being a pleasant one ...drought at first, incessant rain afterwards, and to crown all, cholera amongst coolies ....all these combined, are enough to drive anyone mad... Beside I was very nearly losing my wife: she had an attack of cholera, ...[97]

G. G. Webb, who referred to the Duars as the 'Planters' Grave' remembered another kind of situation when medical facilities would be required and were often not immediately available- injures caused by wild animals who often strayed within the tea estates. His description of a planter who carried out the treatment of a neighbour after an attack by a leopard graphically illustrates the stark realities of lack of medical help in emergencies, 'The doctor lived miles away, so a near neighbour was informed by a runner. He came and poured crystals of permanganate of potash into each wound and where the deeper cuts were concerned poked them in as far as he could with his fingers.'[98]

Thus in European experience sickness and fatalities were accepted to some extent in the pioneering years by the planters and their doctors as an unhappy but integral part of life; an inevitable part of entrepreneurship and settlement. So far as the labourers were concerned, when they were mentioned in the documents at all, their sicknesses seem to have been subsumed in the topos of the diseased land. 'Last week the rain began again and brought a lot of sickness with it though it was much wanted.'[99] And

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[97] Letter no 40, 25 June 1876, Mss Eur B 411, (APAC).
[98] Typescript titled 'Leopards', Mss Eur C474, (APAC), p.15.
[99] Letter of Arthur Story to his mother from Bhogotpore Tea Estate, August 20, 1891, Mss Photo Eur 275, (APAC), p. 299 of typescript.

again, 'There have been a good many cholera cases on this garden amongst the Coolies and a good many have died but it is dying out now.'[100]

In planters' accounts the representation of Duars and Terai as unhealthy regions persisted, as did the heroic story of the conquest of unwelcoming terrain. Official discourse replicated the motif of an unhealthy land. The Terai was not only inscribed with unhealthiness but also invariably posited against the healthiness of the high mountains. In 1843 Frederick Corbyn, a surgeon in the British Indian army wrote about fever in the Nepal Terai which he named 'Tarai fever'[101]. The Darjeeling Terai acquired a similar reputation. As the Darjeeling district gazetteer demarcated in 1907, 'The district is composed of two portions, the Terai, a low malarious belt skirting the base of the Himalayas, which is notoriously unhealthy, and the hills, where the climate is wonderfully bracing,' ...[102] Duars also had a reputation for being an extremely unhealthy land. When David Rennie was on the march in the area in 1865 he found it as febrile and its miasma as harmful as that in the 'more dreaded' Terai'.[103] Three and half decades after the tea plantation industry in the Duars, the district gazetteer pointed out that the region, 'has an evil reputation for malaria and blackwater fever comparable only to the deadliest regions of Central Africa;'...[104] Story wrote, 'Talk about Africa, darkest Hindoostan is just as bad'. [105] Not only the British, Indian planters too romanticised the terrain. The otherwise phlegmatic autobiographical account of a Bengali planter in the Duars boasted; 'This was a land

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[100] Ibid. Letter of Arthur Story to his mother, from Bhogotpore Tea Estate May 9 1891, p.295 of typescript.
[101] *India Review and Journal of Foreign Science Arts*, vol. 8, no 4, 1843, pp.201-210.
[102] O'Malley, *Darjeeling*, 67.
[103] David Fields Rennie, *Bhootan and the story of the Dooar War; Including a three months residence in the Himalayas etc.* London 1866, p. 352.
[104] Grunig, *Jalpaiguri*, p.46.
[105] Letter of Arthur Story from Looksan Tea Estate, August 14, 1892, Mss Photo Eur 275, (APAC), p. 321 of typescript.

only for the saints or the satans'.[106] Thus climate and the miasmas and the terrain of the region appeared to be responsible for the unhealthiness of the burgeoning labouring population of the plantations of the Duars and the Darjeeling foothills.

Disease was linked to the land, a familiar trend in Anglo-Indian medical traditions in the nineteenth century.[107] The formidable reputation of the Terai and Duars for malaria made it a destination for the Royal Society's Malaria Committee in 1902, as I have discussed in chapter 6. Ironically, it was a report requested by the planters themselves that explicitly challenged both the 'diseased land' theory and eventually, the prevalent system of medical care in the Duars. This caused a disruption of the consensus of the 'diseased land' as well as the construction of the planters' paternalistic benevolence that was supposed to have been articulated in their healthcare, as in all other aspects. The next chapter will discuss the report when the two different consensuses of the plantation enclave; that of the diseased land as well as of the paternalistic claims of the planters, were challenged.

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[106] Ghose, *The Development of Tea Industry,* p. 12.

[107] Harrison, 'Tropical Medicine in Nineteenth Century India', *British Journal of History of Science,* Vol.25, 1992, pp.299-318.

Chapter 4

The Plantation System: Contending Visions of Healthcare

4.1. Introduction: The Christophers–Bentley Reports

Both Duars and Terai were represented as sites of disease, fevers, and fatalities. Though the original inhabitants, the Meches, were supposed to have been immune to fevers, malaria and a particularly vicious form of fever, the blackwater fever, were the scourges of planters as well as their labourers in the entire region. [1] In the first decade of the twentieth century, the Government of India appointed a survey by expert medical authorities to look into the causes of and suggest methods for controlling fevers, particularly blackwater fever, which had recently caused several fatalities among the planters in the region. This was the consequence of a petition by the European planters' association in Duars, the Dooars Planters Association (DPA) to the Government of East Bengal and Assam, but the consequent report challenged the very foundation of the political economy of the plantations in the Duars; and by extension, of the entire northern Bengal. The implications of that report were to resound for a long time in government policies as well as public debates within the region.

In 1906, a number of planters in the Duars died of blackwater fever, which was associated with malaria in some form. One estimate put casualties in 1906 to ten per cent of the resident European planting population.[2] J.A. Milligan, the settlement officer then engaged in the revenue settlement and survey of the district, noted that

[1] The histories of malaria, blackwater fever and the policies to control them in the region will be discussed at length in the later chapters.
[2] Mss Eur C474, Typescript titled, 'Leopards', (APAC), p.2.

one of his first duties on arriving in Jalpaiguri in 1906 was to attend the funeral of a planter, and that 'this experience was repeated at short intervals during the fall of that dreadful year 1906'.[3] According to him this was the turning point from a situation where the 'intensely malarious climate...was accepted with resignation by the inhabitants, Europeans and Indians alike....'[4] The planters now petitioned the Government for a thorough assessment of malaria and blackwater fever in the Duars.[5] This Committee appointed by the Government of India consisted of two members; S.R. Christophers and C.A. Bentley. Christophers, IMS, was a malariologist who had been a member of the Royal Society's Malaria Commission in India in 1901. He later supervised the infamous experiment at malaria control at Mian Mir in the Indian Medical Service. Bentley, also of the Indian Medical Service, had served in Assam and acquired experience of medical practice in the tea gardens there. He later went on to become the Sanitary Commissioner of the undivided province of Bengal and after the provincialization of the health service, the Director of Public Health in Bengal, a position he was to hold for several years.

Christophers and Bentley produced two reports after their visit to the Duars one on malaria and the other on blackwater fever in the area. Though their brief was to study specifically two diseases, their reports were the first comprehensive surveys of

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[3] J.A. Milligan, *Final Report on the Survey and Settlement Reports in the Jalpaiguri District, 1906-1916*, Calcutta, 1919. (APAC), p.16.
[4] Ibid.p.15.
[5] Government of Bengal, Municipal /Sanitation Proceeding Volume, March 1907, p. 1 of B Proceedings Index (WBSA). See also John F Grunig, *Eastern Bengal and Assam District Gazetteer*, Allahabad. 1911, p.47. For the agreement on the part of the Government of India that the matter may be 'entrusted to the Central Research Institute assisted by an Advisory Commission of selected officers', see Govt of Bengal, Municipal /Sanitation, Proceeding Volume May 1907, page 1 of B Proceeding Index, (WBSA). For the expectations of the DPA that the report would lead to solutions for the prevention of malaria and blackwater fever in the region, see Address of Chairman, DPA, at the Annual General Meeting of 8th Feb. 1909, *Detailed Report of the General Committee of the Dooars Planters Association for1908, with Proceedings of Annual General Meeting in 1909,* Calcutta, 1911. (APAC), p.ii. (Henceforth *DPA A.R).*

disease among the workers in the tea estates of the Duars. Their reports, particularly that on malaria, challenged the climatic or the miasmatic theories of disease in the Duars and instead laid the responsibility for disease among the workers solely on the the plantation economy of the region itself. [6] In the process they indicted the management of the plantations of the neglect of the labourers' health. While they made several suggestions for the prevention of malaria and blackwater fever among the managerial staff, their report linked disease among the workers directly to poverty and destitution; to the system of wages and labour control within the plantations. [7]

This created a point of crisis in the system of labour management, particularly for the Duars planters, but also, by implication, for the entire tea plantation area of northern Bengal. In response, the Government of East Bengal and Assam instituted the Duars (Monahan) Committee whose report provided a point of resolution for this crisis in the plantation system.[8] This chapter explores the negotiation between the two contending interpretations of the plantation system. Both the Christophers-Bentley and the Monahan reports attempted to understand the nature of disease and workers' welfare in the Duars plantations but they differed in their understanding of where the responsibility and agency for that management should remain- with the state or the planters. Both the reports ultimately claimed paternal jurisdiction over the workers' welfare- that of the government or of the planters. This chapter will examine the differing visions of the two contending reports, concerning the

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[6] S.R. Christophers and C.A. Bentley, *Malaria in the Duars: being the second report to the advisory committee appointed by the Government of India to conduct an enquiry regarding blackwater and other fevers prevalent in the Duars,* Simla 1911, pp. 42-64.
[7] Ibid.pp. 67-71.
[8] *Report of the Duars Committee,* Shillong, 1910.

economic and social structures, which directly impacted on medical practices and policies within the plantations.

4.2. Free versus Indentured labour: The Medical Debate

The first characteristic of the plantation system that Christophers and Bentley observed was that in the Duars (as well as in Darjeeling and Terai), labour was free. There were several reasons for this. In Darjeeling, the government had encouraged migration from the neighbouring Nepal and recruitment was done through *sardars* (contractors) and such a system was followed in the tea plantations as well. [9]

The most crucial point the Christophers- Bentley report made was therefore about the details of labour immigration into the Duars, figures for which were not available at all. The figures they cited in their report were estimates, based on empirical observations. They posited it thus:

> For a long time the only important centre of the industry outside Assam was in the Darjeeling hills, and in this case the influx of local labour from Nepal and Sikkim afforded an ample supply of workers.....But in the Duars the regulations applying to Assam have never been enforced, and the recruitment of labour has gone on under what is known as the "voluntary" or the "*sardari*" system, which, since it entails no legal binding for the coolie, is generally considered as not necessitating measures for his protection. Whilst then the Duars has advanced to a foremost place among the tea districts, it has become above and beyond this an example of the working of the special system of labour peculiar to itself.[10]

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[9] In the Darjeeling and Terai plantations too the management recruited through the sardars, who worked within the plantations as well. The sardars also appointed intermediaries, duffadars, to recruit workers on their behalf. *Notes on Tea in Darjeeling,* p. 74. The Nepali sardars could provide large and steady numbers of workers. A planters' manual reminded that, 'Bootea Sirdars cant get Coolies so easily or in such large numbers as Pahariahs'. E.F. Bamber, *An Account of the Cultivation and Manufacture of Tea in India, From Personal Observation,* Calcutta 1866, p. 9. See also *Report of Royal Commission on Labour in India,* London, 1931, pp.356-7. (Henceforth *RCLI*).

[10] Christophers and Bentley, *Malaria in the Duars,* p. 42.

The Duars plantations, apart from some numerically insignificant Nepali (Paharia) labour, recruited from the same areas as the Assam plantations: its labourers comprised tribals from the Chota Nagpur and Sonthal Paragana areas of Bihar, and were mostly Oraons, Mundas and Santhals. They were collectively known as Madesias. By the time of the expansion of tea gardens in the Duars, the indentured system in Assam had already acquired notoriety. The penal clauses for breach of control led to many abuses on the part of the planters. It led, too, to some nationalist criticism.[11] The contractual system in Assam was designed to provide the planter with wide-ranging powers of detention and resulted in a power equation quite hopelessly in favour of the planters. Simultaneously it provided, at least on paper, through legislation, certain safeguards for the workers while they were travelling to Assam, as well as during the period of their contract. This included a system of registration of vital statistics as well as provision for regular inspections by the government. These were generally carried out by the Civil Surgeons of the respective districts through the medical department of government.[12]

In the Duars, Darjeeling and Terai, on the other hand, the system of free labour meant that there was no government control whatsoever over the immigration into the region. Though some of the tea plantations maintained records of births and deaths, Christophers and Bentley concluded that they were inaccurate to the point of being ludicrous:

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[11] After several allegations of ill-treatment of non-contractual coolies, the Indian Association, a nationalist organization, sent their representative Dvarkanath Gangopadhyaya in 1886 to tour a few tea estates in Assam. He published his findings of violation of contract and abuse of tea labourers over thirteen articles in two periodicals, *The Sanjibani* and *The Bengalee*, in 1886-7. See Dvarkanatha Gangopadhyaya, *Slavery in British Dominion,* Calcutta, 1972.
[12] *RCLI*, p. 417.

> In Assam unhealthy gardens are well known owing to the fact that accurate returns of vital statistics are insisted from garden managers...In the Duars...registration is very lax; even gardens known throughout the whole district for their unhealthiness have returned...such small numbers of deaths as to make them compare favourably on paper with some of the healthiest communities in England.[13]

Percival Griffiths, an ICS officer who became principal adviser to the ITA after 1947, wrote that the system of recruitment through middlemen in the northern Bengal tea gardens was influenced by experiences in Assam. He speculated that the system of free labour in Dooars could have been in because ' the experience of the disadvantages of the penal contract which had been gained by the planters in Assam'- a corrective, in fact, to the notorious system of indentured labour in Assam.[14] But Christophers and Bentley commented that,

> ...there are regulations regarding the protection of the coolie and a system of Government inspection of gardens [in Assam], in the Duars there is neither the one nor the other ; and did Government inspection exist there would appear to be no powers under which any measure of sanitation could be enforced.[15]

This system was indeed important to the planters as it gave them protection against government intervention. In the absence of a penal contract the colonial state would not intervene in the recruitment process or enquire into the labourers' condition once they reached the plantations. In fact, the Assam Labour Enquiry (1895), appointed to examine the state of labour recruitment in Assam, had stated specifically that since labour in Duars, Darjeeling and Terai was free, it was not necessary to make laws for the protection of the labourers.[16] This facilitated, too, the flow of labour to areas of free labour, particularly if they were not very far from

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[13] Christophers and Bentley, *Malaria in the Duars*, p. 109.
[14] Griffiths, *The History of the Indian tea industry* London, 1967, p.285.
[15] Christophers and Bentley, *Malaria in the Duars,* p.42.
[16] *Report of the Labour Enquiry Commission*, Calcutta 1896 (APAC).

the centres of recruitment.[17] Duars (and Terai) were closer to the recruiting districts than Assam, and that rendered it easier to recruit for the Duars than for Assam. In 1895 the Settlement Officer of the district noted that workers with their *sardars* who were bound for the Duars, especially by road, were sometimes intercepted and coerced into agreements (contracts) by the *arkatis,* commissioning agents for the less popular tea gardens in Assam.[18] In 1904, a report on conditions of labour in areas of free labour in the plantations of India and Ceylon asserted that, ' The majority of the Duars planters...prefer their own system and prefer no legislation...the general opinion is that the introduction of agreements and contracts might disorganise labour, and would certainly exercise a prejudicial effect on recruitment.'[19]

Christophers and Bentley, on the other hand, urged the need for a system of registration of vital statistics in the plantations, with some inspection over the procedure by the government. They stated that while 'in the absence of registration, it was still possible to estimate that the annual immigration into the Duars was around 12,000 persons,' and the figure could, including the Paharia coolies who came down seasonally, be as high as 30,000 in 1907-08, the year they inspected the coolie lines in the Duars.[20]

Why was the registration of vital statistics considered so crucial? Christopher and Bentley, were concerned that '...since the labour force forms only a fraction of the

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[17] G.G. Webb noted that 'No indentured labour was employed...during a famine in the 1890s thousands of men, women and children trekked hundreds of miles and offered their services to planters'. Typescript titled 'Leopards' Mss Eur C474, (APAC), p. 1

[18] D.H.E.Sunders, *Final Report on the Land Revenue Settlement of the Western Duars, Bengal, Calcutta*, 1895, (APAC), p. 106.

[19] J.C. Arbuthnott, *Report on the Conditions of Tea Garden Labour in the Duars of Bengal, in Madras, and in Ceylon,* Shilling, 1904, p. 5.

[20] Christophers and Bentley, *Malaria in the Duars,* pp. 36-37.

total coolie population on a garden, a large number of the latter are not registered in any way and their sickness or death entails no responsibility upon anyone'[21]. Moreover, any worker who due to sickness or any other reason would remain absent from the rolls of a tea estate would be struck off after one month. Such workers might still be resident within the tea estates, suffering from long illnesses, but they were but they were 'to a large extent lost to sight'.[22]

The lack of indentured labour entailed, they insisted, a floating population of migrant workers who were not only afflicted with disease themselves, but who also formed a mobile reservoir of disease which could spread to the entire district and even the entire province.[23] A few years previously, a report was commissioned by the Assam government to investigate the state of the supply and condition of labour to the non-indentured tea producing plantations in Duars, Madras, and Ceylon. The resultant Arbuthnott report noted the large number of temporary workers in Duars - in 1902 the number (provided by the tea garden managements) had been estimated at 38,218 out of a total work-force of 61,784.[24]

4.3. *Sardar* as Provider

The second point made by Christophers–Bentley report concerned the labour recruitment and management (the *sardari* system) and the issues of impoverishment and disease linked with it. The question they addressed was, why did the workers migrate from one garden to another? The Christophers- Bentley report pointed out

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[21] Ibid, p. 43.
[22] Ibid.p.45
[23] Christophers and Bentley were however not the first to observe that newly immigrant labourers and children suffered more than the old immigrants in the tea districts. The point had been made two decades earlier in the context of immigrant indentured labour in Assam. See *Special Report on the Working of Act I of 1882 in The Province of Assam During the Years 1886-1889*, Calcutta, 1890, (APAC), p.253.
[24] Arbuthnott, *Report on the Conditions of Tea Garden Labour,* p.1.

that the reason for the flux in workers was a cycle of impoverishment and disease. Some labourers, they stated, were able to save money and settle outside the tea-garden areas as cultivators after a few years, and yet others were able to supplement their incomes by, for example, hiring out their bullocks for carting. They argued that such signs of prosperity among the workers was limited to a few only, mostly *sardars*, or workers who had served in the region for many years.[25] They noted especially that new immigrant workers were the most vulnerable to disease, and this was partly due to lack of adequate food and nutrition. They attributed inadequate dietary (inadequate in the sense of leading to unproductive capacity on the part of the workers) to the *sardari* system of labour in the Duars. This system was the common method of recruitment in India's manufacturing centres particularly in the jute industry as well as in the tea plantations. It relied on clan networks to draw in dispossessed or landless peasants who would migrate on a temporary or permanent basis.[26] Under this system, the *sardars* paid a certain sum for every worker that they recruited. The Arbuthnott report stated this to be anything between Rs 2 to Rs 5 per worker in the Duars.[27] They were also paid a small amount, a *pice,* for every day's work (*haziri*) done by each of the workers they had recruited. In some gardens (possibly the newly opened ones which did not already have a substantial settled communities of labourers) the *sardar*'s commission was two *pice*.[28] The *sardars*

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[25] Christophers and Bentley, *Malaria in the Duars*, pp.61-62. The *RCLI* pointed out in 1931 that not all workers had access to land for cultivation.

[26] The dependence on the *sardari* system both for recruitment of labourers and for their supervision in the daily work regimes in the plantations continued even after 1924, when a separate branch of the Tea Districts Labour Association (TDLA) was formed in order to recruit for the planters in the Duars. See *I.T.A.A.R.1921,* Calcutta 1922, pp.32-33. The TDLA was originally formed by planters in Assam to facilitate centralized recruitment. The Dooars branch of the TDLA used garden *sardars* for recruitment in the Chota Nagpur and Santal Parganas areas, which were its 'traditional recruiting districts'. It used paid recruiters for new recruiting areas such as the Madras Presidency. Griffiths, *The History of the Indian Tea Industry*, pp. 284-6.

[27] Arbuthnott, *Report on the Conditions of Tea Garden Labour,* p. 2.

[28] Ibid.

were also given a sum of money to advance to the worker to pay off their debts if any, to enable them to pay for their journey to the tea district, and to pay for subsistence in the initial weeks.

Christophers and Bentley argued that the system depended too heavily on the assumed benevolence of the *sardars*: 'the real conditions are unrecognised. The relation between the *sardar* and his coolies are on a much less philanthropic footing ...there is no reason to believe that in the Duars, where sickness is a constant occurrence and a very serious item in the life of a labourer, arrangements can be with advantage left to the sardars'.[29] The dependence on clan networks carried an implicit notion of a moral economy sustaining a hierarchical, quasi- feudal relationship between the *sardar* and his gang, in this case, emulating the colonial system of the Manager (*burra sahib*) at the top of the hierarchy. This particular moral economy was a construct, and a new one. The co-existence of the feudal and colonial capitalist system was as new as the system of work and recruitment in the tea estates, a social and economic relationship created out of the plantation economy system.[30] From a medical point of view, Christophers and Bentley found little to recommend it. They described the *sardars* as, 'a class of middlemen often shrewd, more or less educated, and always capable of looking after their own interests....Yet it is not entirely a matter of the integrity and humanity of the *sardars* which is concerned.'[31]

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[29] Christophers and Bentley, *Malaria in the Duars*, p. 44.
[30] The Royal Commission on Labour found the system unchanged in 1931. *RCLI,* p. 415. Das Gupta has argued that such a system enabled the planters to pay low wages and encourage subsistence cultivation by the tea plantation workers, thereby creating a system of 'twin dependency'. Das Gupta, 'Plantation labour in colonial India', in E.Valentine Daniel, Henry Bernstein and Tom Brass, *Plantations, Proletarians, and Peasants in Colonial Asia*, London, 1992, pp. 172-191.
[31] Christophers and Bentley, *Malaria in the Duars,* p. 48.

This intervention by Christophers and Bentley was on the principle that the supervisory position of the state would help to rationalise the wages in plantation system. Nutrition for the workers was important for their productivity; 'Perhaps there is nothing of more vital importance to the members of a community than that they shall obtain a physiologically adequate dietary...proportionate to the amount of physical work expected of them'.[32] The process of government intervention to ensure fair wages was one which substituted the paternalism of the planter with that of the state. It is another matter that the example of Assam was not necessarily the most pertinent demonstration of the paternalism of the state, because the neutrality and accuracy of the government inspections had been in doubt from the time the Indian Association sent its first delegate to the tea plantations in 1886.[33]

The *sardars* themselves, they went on to elaborate, were not entirely responsible for the unsatisfactory situation. The economy of the plantation system left them with little alternative but to coerce the workers to work even when they were too ill to work, because in the case of illness or death, the advances made to the *sardars* were called in by the management: workers' debts were to be accounted for by the *sardars*.[34] Nor was this a unique feature of the plantation system in the Duars; in Darjeeling too, the advances to workers were dispensed through and recovered from the *sardars.* The district gazetteer of Darjeeling noted the paternalistic chain, 'The cooly looks to the sardar for an advance, and the sardar to the manager'[35]. In Terai too a similar system of organizing labour prevailed. W.M. Fraser, who had initially

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[32] Ibid, p. 5.
[33] Ganguly, *Slavery in British Dominion*, pp. 33-5.
[34] Arbuthnott, *Report on the Conditions of Tea Garden Labour*, p. 3.
[35] [35]L.S.S. O'Malley, *Darjeeling*, Calcutta 1907, p. 84.

served in Sylhet, and in 1895 moved to a tea plantation in Terai, commented on the role of the *sardars* in the Terai,

> It was all very different from Sylhet, where every coolie was a unit. Here the unit was the sirdar. He it was who got the advance in money that brought the coolies in, and the whole of the pay earned by his people was handed to him. The coolies were in debt to the sirdar and the sirdar to the garden, and the only security the latter had was the presence at work of the coolies.[36]

Even before Christophers and Bentley, the Arbuthnott report had noted that in the Duars, the *sardars* had no security for the money loaned out to workers, and that the tea gardens considered them liable for any loss.[37] It also stated that it was in the *sardar*'s interest to see that his coolies worked every day and that there was a system of intelligence through which a *sardar* could locate an absconding coolie from a garden. Any death therefore made it incumbent for the *sardar* to recruit and ensure the working days of yet more labourers.[38] The middlemen and the workers thus, Christophers-Bentley noted, appeared to be trapped within a relentless system of debts and coerced labour, because the final responsibility for the workers did not rest with the tea gardens but with the *sardars*. This misplaced responsibility was of course a direct contradiction of the claim of paternal benevolence that the management of the tea plantations assumed with respect to the workers; a claim that gained in certitude and legitimacy throughout the colonial period.

In their representation to the Royal Commission on Labour in India whose report was published in 1931, the planters stated that the *sardari* system 'had not led to any

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[36] W.M. Fraser, *The Recollections of a Tea Planter,* London, 1935, p. 51.
[37] Arbuthnott, *Report on the conditions of tea garden labour*, p. 3.
[38] Ibid.

unauthorised deductions by the sardars'.[39] The system evidently continued long after Christophers and Bentley's report was published, and the Royal Commission recognised that the system was 'fraught with danger to the labourer, who is frequently in debt to his sardar'.[40]

4.4. Labour and Subsistence: malnutrition and disease

Another intervention by Christophers and Bentley was on the issue of the labourers' wages. The working day in each tea estate was divided into two daily tasks- the *hazira* and the *ticca.* The *hazira* was the first work of the day, and *ticca* (or *doubly*) was the second, theoretically optional task.[41] The first tasks varied according to the season, being the heaviest during the peak monsoon months. The men were generally given the heavier tasks of hoeing and digging, and the women and children did the plucking. Women were also allocated lighter hoeing and pruning tasks. In the winter, between November to February, work was easier and consisted of digging and clearing the trenches and drains, and some pruning.

According to Christophers and Bentley, the workers' wages were below subsistence level. The food available to the working population, they believed, should be proportionate to the amount of labour they were to expend. They stated categorically that the average monthly pay of a coolie, claimed to be Rs 6 for a man, Rs 4-8-0 for a woman, and Rs 2-8-0 for a working child, would not be sufficient to supply adequate nutrition, even compared to a famine code dietary. They pointed out, after a survey of the prevalent prices in the local markets, moreover, that the

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[39] *RCLI*, London, 1931, p. 399.
[40] Ibid.
[41] Ray has shown that the *ticca* or the *doubly* was was not really optional. It comprised the essential task of the day for most workers. See Subhajyoti Ray, *Transformations on the Bengal Frontier*, Jalpaiguri, 1765-1948, London, 2002, p. 104-6.

> ...actual amount earned by a labour force is, however, much less than this, totalling on the average, inclusive of ticca, Rs 4-9-0 for men, Rs 3-7-0 for women, Rs 1-0-5 for children, each month in the year. . ...on such pay with the prices of foodstuffs at the level they have maintained during the last few years it is, we believe, not possible for coolies to obtain an adequate dietary.[42]

This contradicted all assertions by planters, who generally stated that their workers were prosperous, able to save when they were thrifty, and thereby either move out and settle outside the tea estate as tenant-cultivators or buy bullocks, goats, etc with their savings. The planters argued, too, that the workers who were not able to save were either indolent or wasted their money on drink.[43]

Christophers and Bentley isolated two other issues linked to inadequate wages and unavailability of subsistence by the workers. The first was the non-registration of the non-working but dependent population within the tea plantations. The second was the availability of *khet* lands for cultivation to the workers, from which they were supposed to derive their subsistence. The report acknowledged that some of the workers had access to the *khet* lands where they could grow rice or vegetables to supplement their diet, and also use the natural resources of each tea plantation: the streams for fishing, the jungles for gathering edible roots and herbs and hunting the

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[42] Christophers and Bentley, *Malaria in the Duars*, p. 51.

[43] It is difficult to estimate the actual wages of the labourers throughout because the workers' subsistence was derived not only from wages but also from cultivation as well as a certain amount of hunting and gathering in the forests. The Royal Commission on Labour in India pointed out that an evaluation of the concession to cultivate lands should be made, because there was a discrepancy (both in the tea estates and among labourers within the estates) in the distribution of land for cultivation. '...some managers charge an uneconomic rent, others charge no rent and yet others have no such land at their disposal'. See *RCLI* , p.397. The planters usually resorted to the argument that their subsistence was provided for in kind through their subsidiary occupations. This was accepted as fact; in 1967 Percival Griffiths commented that low wages were compensated by the employment of the entire family (and quoted from the Royal Commission on Labour on the issue) and by the cultivation of some rice and vegetables. Griffiths, *The History of the Indian Tea Industry*, p.297. Das Gupta has pointed out that the land given for cultivation was used as a means of disciplining the labourers by taking it away. See Das Gupta, 'Exploitation of Plantation Workers, Reproduction of Labour Power and Nature of Proletarianization in North-East India,' in *Labour and Working Class In Eastern India: Studies in Colonial History*, Calcutta, New Delhi, 1994, pp.141-174. The plantation management admitted to the Royal Commission that they had an 'understanding' among their members not to raise their wages. See *RCLI*, p. 399.

occasional meat. Their report argued that the low wages affected particularly the new immigrants who did not immediately have access to *khet* land.[44]

Christophers and Bentley further pointed out that the housing and sanitation for the labourers were not adequate. They did not have permanently settled houses but, especially for the new coolies, little better than small, ill ventilated and inadequately protected shacks: '...the majority are housed in a manner at once primitive and temporary'.[45] The workers who had been settled in a garden for some time seemed better off in this respect: they too built their own huts with the materials supplied by the tea garden, but their dwellings often had a thick thatch and a raised plinth. Thus in their understanding, the protection of the coolie under the *sardar*, based on paternalistic terms, was not a foregone conclusion. From their perspective, another significant dimension of the living conditions of the workers was difference between the new coolies and the old ones. Apart from the housing issue, it was the old coolies less burdened by debts to the *sardar* and could therefore eke out an existence that was at least marginally more comfortable than the newly arrived ones; it was they too, who could take better advantage of the opportunities for fishing and cultivating the *khet* lands. Such conditions, Christophers and Bentley stated, led not only to a state of endemic malaria among the population, but also to the other diseases prevalent, including cholera and dysentery, and ulcerated legs and feet.[46]

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[44] Not all the workers had khet/ bari lands for their own cultivation. They were given to some labourers on condition of work in the plantations. See Ibid, pp. 384-5.

[45] Christophers and Bentley, *Malaria in the Duars* p. 60.

[46] Christophers and Bentley noted that ulcers occurred in the rainy season, could incapacitate a worker, and speculated on its bacterial origins. Like some other diseases suffered by the labours, ulcers on the legs and feet remained a constant problem, rarely addressed. In 1914, in the first annual report on the working of the Jalpaiguri Labour Act, the Civil Surgeon of Jalpaiguri remarked that the ulcers caused more sickness than malaria in the tea estates and recommended a 'scientific enquiry' into the ulcers and in the next annual general meeting of the DPA the chairman heartily endorsed it. See *D.P.A.A.R.1915,* Calcutta 1916, (APAC), p.76 and p.x. Also see *Annual Report on the Working of the Jalpaiguri Labour Act, 1913-14*, (APAC), p.3.[Henceforth *A.RW.J.L.A*].It was

Also noted were pthisis, particularly among the Paharia (Nepali) labourers, small-pox, (vaccination was available but the workers had to pay for it themselves, which did not provide them with great incentive) and infective conjunctivitis.[47] They stressed particularly the inadequacy of medical facilities and the incompetence of the resident doctor babus. They urged strongly both the provision for better medical facilities at hand and for the appointment of qualified resident doctors within the plantations, and an increase in their numbers.[48]

4.5. The formation of the Duars Committee

The Christophers and Bentley report laid down the framework within which health in the tea plantations of northern Bengal would be analysed and reformed. It was also strongly contested by the medical authorities, the administration, and the planters themselves. Their understanding of malaria, its causation and cures apart, the report located disease in the Duars *not* in the land itself, but within the economic structures of their and daily lives. In identifying sanitation, proper water facilities, good housing, adequate nutrition and an effective system of medical care as the factors that would improve the labourers' health, they emphasised human agency

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commented upon by the Civil Surgeon again in 1918-19. See *A.R.W.J.L.A.1918-19,* (APAC), p.4. In 1920 the newly established Calcutta School of Tropical Medicine asked the Indian Tea Association for patronage and in that context enquired if there were any specific diseases pertaining to the workers that needed to be studied. The DPA, after consultation with its British medical officers who were organised in the North Bengal branch of the British Medical Association suggested an enquiry into the causes and cures of ulcers on the legs and feet. See *D.P.A.A.R.1920,* Calcutta 1921, p.134. Ultimately however the DPA contributed a sum towards the study of malaria instead. See chapter 5 for a study of malaria control in the tea estates. In 1947 the workers were still reported to suffer from ulcers and sores in their legs and feet, which had decreased from a high level of occurrence during the war years. See *D.P.A.A.R.1946,* Kalimpong 1947, p. x.

[47] Christophers and Bentley, *Malaria in the Duars,* pp. 63-68.

[48] Ibid. pp. 68-71.

rather than environmental causes as the essential causal factor of disease in the plantations. [49]

The sense of a crisis created by the Christophers-Bentley report resonated in both official and management circles. For the plantation management, the crisis evidently lay in the severe indictment of their labour system. When published, the report was likely to draw unwanted nationalist criticism. Even more crucially, it suggested a system of governmental agency through inspection of their plantations, which had hitherto been non-existent. For the local and provincial governments, the report was embarrassing too, for it indirectly held the government responsible for the sorry state of affairs within the plantations. It also led to a situation where the government would have to confront the planters, thereby destabilising a status quo more or less maintained. The managing agencies which owned most of the larger plantations in the Duars also controlled most of the British capital in eastern India- in the jute and mining industries. The tea lobby exercised a strong influence on government policy. Finally, and for the government probably the most awkward consequence of the report, was that it contradicted the stated policy of the government where indentured labour was to be gradually phased out in Assam and a system of free labour installed in place. This was to be the pattern, too, in all other plantation areas in South Asia.

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[49] In that respect they valued the Assam labour system, where every labourer under the Act of 1901 in the plantation was accounted for, and a system of regular inspections in place. The *Special Report on the Working of Act I of 1882 in The Province of Assam During the Years 1886-1889*, Calcutta, 1890, (APAC), pp. 247-253. A system of inspection by government did not prevent the exploitation and high mortality and morbidity rates among tea labourers in Assam. See Rana P. Behal, 'Wage Structure and Labour: Assam Valley Tea Plantations, 1900-1947', http://www.indialabourarchives.org/publications/Rana_P_behal.htm. Moreover, the accuracy of much of the vital statistics collected in the Assam plantations was doubtful. See Ralph Shlomowltz and Lance Brennan 'Mortality and migrant labour in Assam, 1865-1921', *Indian Economic & Social History Review,* vol. 27, No.3, 1990, pp. 85–110.

Interestingly, therefore, the Christophers-Bentley report was not published immediately. The Sanitary Commissioner of India was asked by the Government of India to give his opinion on it. He stated that the government could not possibly avoid publishing the report, but since 'the report if published is likely to lead to a good deal of agitation' so that 'before it is done Government should decide what action is to be taken on it'.[50] The Secretary to the Home Department of the Govt of India, also thought that the 'planters won't like the remarks on the arrangements in the Duars, but the inquiries were started at their instance and they will have to be supplied with the report'.[51] According to the Sanitary Commissioner, as well as the commerce and industry ministry and the Home Department of the Govt of India, the publication of the report would 'place Government in a very embarrassing position; since it amounts to a condemnation of the free system of labour which was so strongly recommended by the Assam Labour Commission and to which the Government is practically committed by more than one pronouncement in the past'.[52]

While the Govt of India deliberated over the publication of the report, it conceded privately that,

> As to the earnings of the coolie, ... his wage is insufficient, ...The same is the case with Assam, and I have never ceased to hammer into the planters the necessity for giving a better wage...if this is published, the planter will have to recognise the necessity of improving the coolies' pay and the sooner he does so the better.[53]

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[50] Memorandum of Sanitary Commissioner to the Govt of India, dated 2 Aug.1909, Government of India Home Proceedings (Sanitary) A, (Confidential), Oct 1909, Nos. 24-26, NAI, N. Delhi. p. 1.
[51] Memo of Secretary, Home Department, dated 18 August 1909.
[52] Ibid. p. 2.
[53] Ibid. p. 4.

Meanwhile the provincial government, confronted with the report, summoned a meeting of senior officials to discuss its strategy.[54] The Deputy Commissioner of Jalpaiguri showed a copy of the preliminary report to the chairman of the DPA, and a copy was sent on to the ITA in Calcutta. After deliberations the provincial government sent a strongly worded letter to the Govt of India, particularly defending the planters' benevolence and the *sardari* system of labour:

> The Lt. Governor is of the opinion that authors of the report...have outstated the facts and have failed to give credit to employers for the efforts made to improve the sanitary conditions of their gardens...the amount of sickness and mortality among the new coolies was perhaps due to their low physical condition on arrival and not to the *sardari* system of labour, and that in the absence of more convincing arguments the Lt. Governor cannot abandon the opinion hitherto held that the sub-Himalayan tracts are intrinsically unhealthy.[55]

The Govt of India agreed to commission of another committee to review the findings of the Christophers–Bentley report, this time the agency being left largely to the provincial government to choose the members. It decided, too, not to publish the Christophers- Bentley report until the report of the new committee was published.[56] While the Home and the Commerce ministries were unanimous in the view that the report should be challenged, the Sanitary Commissioner for India qualified his statement to the extent of arguing that the Govt of East Bengal and Assam did not comprehend the technicalities of the claims made by the Christophers- Bentley report. Their theory of the 'tropical aggregation of labour' was, he pointed out, in consonance with modern theories of disease, 'In modern preventive medicine increasing attention is being paid to the discovery of the

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[54] Government of India, Home Proceedings (Sanitary) A, (Confidential), Oct 1909, No.27, Telegram from Govt of East Bengal and Assam to Home Dept, Govt of India, 4 Oct. 1909.

[55] Government of India Home Proceedings (Sanitary) A, (Confidential), No 47, Letter from Govt of East Bengal and Assam to Govt of India, Home Dept, dated 24 December 1909, (NAI, N. Delhi), p. 1.

[56] Ibid. Memorandum of P.W. Monier, Secretary to Govt of India, Home Dept, dated 3 January 1910. p.2.

reservoirs of a disease with a view to rendering it harmless, rather than to the discovery and protection from infection of the agency by which the disease is being distributed by the reservoirs'[57] Nevertheless he too recommended that the report be withheld until a new committee had examined its claims. The Govt of India sanctioned a new committee to investigate medical and sanitary conditions of the tea labourers in the Duars.[58] As it happened, new committee -the Monahan Committee (or Duars Committee as it came to be referred to later), submitted its report within a few months as instructed. It was published immediately by the provincial government.[59] The Christophers and Bentley report on malaria was published a year later by the imperial government.

The new committee had a more local disposition, being chaired by the Deputy Commissioner of Jalpaiguri Mr Monahan, and including medical officials and members of the planting community from Assam. It was specifically asked not to challenge the theory of 'tropical aggregation of labour' as stated by Christophers and Bentley.[60] Instead, the brief was to ascertain the standards of living among the tea garden labourers.[61] Its constitution differed from the Christophers-Bentley report, positing even before the enquiry began, a difference between the perspectives of the local administration and medical practitioners with knowledge of local practice and those of experts with from outside. The inaccuracy of this

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[57] Ibid. Memorandum of the Sanitary Commissioner to the Government of India, dated 13 August 1910, p.3.
[58] Ibid. Memorandum of H.A. Adamson, 23 Feb 1910, and H.A. Start, 23 Feb 1910, p.6.
[59] *Report of the Duars Committee*, Shillong, 1910.
[60] The ITA and DPA were shown the report confidentially. Both the bodies protested vigorously and after their lobbying the Government of East Bengal and Assam proposed a second commission to investigate the propositions in the Christophers-Bentley report, with representatives from the planting industry as members of the proposed Commission. See letter from Govt of East Bengal and Assam, 24 Dec. 1909, Home Proceedings, Sanitary A, (Confdl.), 47, (NAI), pp. 11-16.
[61] Ibid, p. 28.

assumption (Bentley had served in Assam) did not detract from the duality posited between outside experts and those with local knowledge.

The Duars Committee's mode of functioning was different from that of Christophers and Bentley; it began by soliciting information from managements within the tea plantations through forms, rather than through visits to the tea gardens. They felt that, 'Any coolies brought up to give evidence before a number of strange Europeans would inevitably become frightened and confused, and no information of value was likely to be obtained in that way.'[62]

There were two aspects to this approach in gathering information. The first was a claim for rigorous thoroughness: thus, it was recorded that though there were 87 total tea gardens in the Duars, the actual number of grants was 97. Of these, 90 gardens returned the information required. The Committee also stated that it visited 57 tea gardens, and recorded statements from 59 witnesses. On the other hand, despite the recording of evidence from personnel in the tea plantations including the workers, there was an insistence on the relative irrelevance of recording the workers' statements fully. The report underlined two aspects of all information pertaining to diseases and their discourses in colonial Duars: the first, that *all* information, all documents that survived, were management records or government documents. That the report considered any formal statements from the workers invalid because they would be either frightened or confused is representative of the managerial discourses about labour discussed above. Infantilising the workers and rendering their utterances irrelevant remained an enduring constant in management discourses in colonial Duars. The other aspect was that the Committee, composed of

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[62] *Report of the Duars Committee 1910*, Shillong 1910, p. 2.

individuals 'in the field', (and in stark contrast to the outsiders, the medical experts Christophers and Bentley) were the ones who, through an intimate knowledge of the workers, their daily lives and the cultural frameworks of their worlds, would be better equipped to translate their meanings to the wider audience of the state and central government. The infantilising of the tribes who worked in the plantations, and indeed the managerial understanding of their 'primordial' social relationships, religious sentiments, and least but not last, their ways of life are reflected in almost every report on the plantations. This served functionally on two counts. Firstly, it legitimised only managerial or medical discourses on their standards of life; secondly, it justified on the part of the management and to an extent the local administration, the resistance to the introduction of any changes in their lifestyles, the justification being that it would destabilise their natural social lives, which were 'primitive and simple'. As we shall see, changes did occur in the system of medical care in the plantations in the colonial period. But these changes were always effected in the context of managerial assertions that no drastic changes in their lifestyles, including changes to their habitations, sanitary facilities, and medical dispensaries would be acceptable to the workers.

4.6. The Duars Committee, paternalism and local knowledge

Quite unsurprisingly, the Duars Committee report contradicted most of the findings of the Christophers – Bentley report. It recognised the lack of statistics on the plantations as had Christophers and Bentley. Unlike them, it interpreted the extent of immigration into the Duars far more conservatively. The figures of the labouring population supplied by some of the gardens (several gardens did not supply the figures because they did not keep records at all), they stated, were not useful

because they did not accurately reflect the numbers of residents in the tea gardens' coolie lines, because 'permanently employed represent not the total number of persons employed but the average daily muster of labourers turning out to work, which is a very different thing.'[63] The report stated that the residents of the tea gardens in the Duars would often include relatives of the workers who were cultivators, having taken up sharecropping in the areas outside of the tea gardens, but who nevertheless lived in the tea gardens. These might include both Madesias (the Oraons, Santhals and Mundas from Chota Nagpur and Santhal parganas) as well as the Paharias (the hillmen) who might be more likely to take up occupations like buffalo keeping or sawyers' work outside. In Duars, briefly, all the inhabitants of the coolie lines above the age of seven could not be compelled to work, therefore the tea garden had to countenance larger families with ties outside the tea estate boundaries,

> In the Assam labour reports the term "labour force" is used as synonymous with the population of the coolie lines, including... men, women, children who work on the tea gardens, and dependants...who are supported by the earnings of the workers. In this report it will be more convenient to restrict the term "labour force" to its usual sense of workers...[64]

Whereas in the Duars, they (the coolie lines), they pointed out,

> ...are straggling, and it does not pay a manager to be too particular as to who lives in the lines. It is to the advantage of a garden to have a large number of people who keep up a connection with it, and who, if they do not work regularly on the garden, may do so occasionally, or may attract others. In this way a large number of persons may be found living in coolie lines, who are not on the garden books and are not dependants of persons working in the garden.[65]

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[63] *Report of the Duars Committee,* p. 3.
[64] Ibid.
[65] Ibid.

The Duars Committee acknowledged that it was to the advantage of the management in the tea gardens to have resided within the boundaries, enough people to provide the requisite labour seasonally, but accepted the managerial position that the tea gardens could not be responsible for their health and well being.[66] Thus they firstly justified the lack of vital statistics by stating that it was an inevitable part of a system of free labour, a system towards which government had pledged its future policies.

Next, the report emphasised the irreplaceable nature of the free labour system, which hinged on the status and role of the *sardar*:

> ...a sardar is the leader of coolies recruited from a certain local area. Usually, either he himself or his father before him has proved an efficient recruiter, and founded a colony of coolies on the garden. His tribesmen live around him in the garden lines, and he holds a social position similar to that of a village headman...He and his followers are bound together by ties of country and in many cases of relationship, and although he can usually count upon the support of the manager of the garden, his position mainly depends upon the maintenance of his popularity among the members of his own patti (gang).... His remuneration from the garden consisting of three pies for every haziri earned by each of his coolies, it is to his interest to attach to himself as large a number as possible, and when it is borne in mind that continual communication exists between the Duars and the recruiting districts, and that a sardar who made himself unpopular on a garden would soon acquire a bad name ....strong prima facie reasons exist why a sardar should deal justly with his coolies[67]

Thus the Duars Committee replied to the charge of oppression by the *sardars* in terms of clan and village networks; the fact that the manager would generally support the *sardar* against any individual labourer was glossed over, and the feudal relationship and the moral economy aspect stressed. And any disputes between the

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[66] G.G. Webb had remarked on the easy mobility between the coolies within the plantations with their friends and neighbours outside in the *bastis*. 'garden coolies when they had accumulated sufficient money used to become farmers and small holders on Govt waste land. There was much coming and going between these people and their relations and friends on the Estates'. Typescript titled 'Leopards', Mss Eur C474, APAC, p.11.

[67] *Report of the Duars Committee,* p. 7.

sardar and his workers were seen in terms of disputes between the coolies. Therefore, the position and the status of the manager retained its pristine quality, reflecting management understanding of the social relations in the plantations; the position of the manager as the fair and ultimate arbiter of justice was not compromised. It re-endorsed the role of the *sardar* as the first point of authority for the worker and situated the *sardar* as the dispenser of patronage,

> It is convenient for the coolies to be under a sardar on account of many small services he renders them, and they can usually obtain loans from him more readily than from the manager. Part of the recognized duties of a sardar is to give periodical feasts to the members of his *patti*.[68]

The system of free labour, the Duars Committee argued, made necessary both the existence of a floating population, unaccounted for and beyond the responsibility of the tea gardens, as well as the crucial role of the *sardar* in the entire system of labour within the plantations. In effect, the system transferred the moral responsibility for the welfare of the workers to the middlemen, the *sardars*. Further, it led to a situation where the reservoir of infection, any infection, within the tea-gardens was finally the floating population of the *bastis*.

The lack of figures makes it difficult to estimate the actual number of floating workers. In fact Grunig noted in 1911 that not more than ten per cent of the working population was on the move, settled as they were in several tea gardens with their own plots of land to cultivate and also often in a state of indebtedness. He quoted what the district commissioner written in 1900:

> A migration to another garden would entail a loss of all this, and naturally it takes a good deal to move them. Again a coolie has taken advances from the garden and has not repaid the money or the garden has lent him money to buy a pair of bullocks, taking the animals themselves as security. This is

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[68] Ibid.

> a very common practice. As long as the coolie remains on the garden the Manager is not likely to be hard on him, but if he attempts to leave for another garden, he could not hope for any consideration. He, therefore, is practically bound to stop where he is.[69]

The Duars Committee report ascribed the lack of hospitals in the Duars to cultural dispositions among the labourers; 'It is a matter of common knowledge that both Chota Nagpur and Sonthal coolies in their own country are very reluctant to come to hospitals...In the case of Paharia coolies, caste prejudices are a great difficulty'.[70] An argument for a cultural understanding of the ways of life of the people led to conclusions about their responses to provisions for sanitary measures such as toilets and pipe wells as well as to hospitals and doctors.[71] The report rejected the system considered in the Arbuthnott report of 1904, which had commended the system then prevalent in the plantations of Ceylon where labour also was free. In Ceylon there was legislation in place to compel management to contribute towards group hospitals and medical facilities for all workers. Instead, the Duars Committee stressed that the nature of investment in medical facilities for the workers should be voluntary, 'We do not recommend similar legislation for the Duars, because we believe that the hospitals, which we regard as very necessary, can be most suitably...provided by arrangements voluntarily'.[72] Meanwhile, so far as the

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[69] Grunig, *Jalpaiguri*, p. 109.

[70] *Report of the Duars Committee*, p.28. The Christophers-Bentley report on the other hand emphasised that: 'In our experience coolies are by no means averse to accept treatment if they realise that it is likely to be of any use.' See Christophers and Bentley, *Malaria in the Duars*, p.69. They pointed out besides that 'hospitals do not exist in the Duars, and there are no facilities for the treatment of surgical or other in-patients. Dispensaries also, in the ordinary acceptance of the word, are almost entirely absent. We know of three or four only to which the term might be applied with any accuracy'. Ibid.

[71] This was most explicitly stated at the time of a campaign against hookworm was started by the Government of Bengal, which singled out the coal mine areas and the tea estates as the sites of examination. See speech of Chairman, DPA, in *D.P.A.A.R.1918,* Calcutta 1919, p. x. For a discussion on the hookworm survey, see next chapter. When government officials recommended well stocked dispensaries or the provisions for a few hospital beds, or even piped water for the workers to prevent bowel diseases, the stock response of the planting industry was a similar response. For an analysis of the slow growth of medical infrastructure in the region see next chapter.

[72] *Report of the Duars Committee*, pp. 29-30.

medical facilities were concerned, the Duars Committee agreed with the Christophers- Bentley Committee that they needed improvement; they identified the training of the resident doctor *babus*, the establishment of 'branch dispensaries' to take the load off individual doctor *babus* who were supposed to tour coolie lines spread over eight to ten miles everyday.[73] As for housing conditions, the Duars Committee report stated that 'most managers are unwilling to undertake improvements'.[74] Among other reasons, the managers reported that 'Coolies prefer to lead their own life in the lines, and strongly object to interference with their domestic arrangements'.[75] The report agreed with the planters' view, quoting from H.H. Risley's *Tribes and Castes of Bengal*, which described the Oraons as a 'slovenly race' and their dwellings as 'badly built mud huts'.[76] At the same time, so far as adequate housing for workers was concerned, the report identified that the 'The question appears to be one partly of expense, and partly of supervision' and recommended provisions for 'more comfortable housing' and sanitary facilities and piped water.[77]

4.7. Conclusion: The Jalpaiguri Labour Act

In this chapter I have attempted to describe the plantations in the pioneering days. Particularly in the Duars and the Terai, where the land was colonized from grasslands or forests and cultivated for the first time, disease and often death was accepted as an unpleasant but inevitable part of the process of colonization of the area. The planters dealt with disease among their labourers and themselves in the

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[73] Ibid, p. 30.
[74] Ibid, p.33.
[75] Ibid.
[76] Ibid.
[77] Ibid, pp. 34-36.

same way that they managed other necessities of life in the area. A rough and ready system of medical care evolved, its chief characteristic being a great dependence on the competence and the kindness of the individual planters.

After a couple of decades, when some plantations had settled into regular production of tea with a relatively settled labouring population within the plantations, an enquiry from medical experts into the causes of fevers, the commonest disease, turned unexpectedly for the planters into a critique of the entire plantation economy. Pressure from the planters and the local government led to another enquiry which was to counter the claims of the first.

I have highlighted the differences between the two reports to project the divergent discourses within the colonial order so far as plantation health was concerned. On the one hand there was a committee of experts who spent four months in the area, focussing intensely on two specific diseases and intent on their resolution. The resolution they proposed was one of more active government agency within the plantations. Their recommendations were for a set of policies that combined a system of registration of immigration, adequate legislation that would enable periodic government inspections, keep count of immigration into the district, and attempt to impose the rule of law by the substitution of the paternalism of the state for paternalism of the planter.[78] On the other hand, the Duars Committee Report represented a closer alliance between the local administration and the planters. Imbued with the topos of the men on the spot, they professed an intimate knowledge both of the area and the peoples who worked in the plantations. In effect their report

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[78] Das Gupta has shown that in the coal mining area of Asansol where such government supervision was in existence, the sanitary and medical provisions for the workers were 'absent or inadequate'. See Das Gupta, 'Migrants in Coal Mines: Peasants or Proletarians, 1850s-1947', *Social Scientist*, Vol.13, No.12, (Dec. 1985), pp.18-43.

distanced itself from what they perceived as a clinical, impersonal understanding of health in the plantations. Instead, they posited an alternative view. It was one, they argued, that was enriched by cultural understanding of their labourers and at the same time cognisant of the logistic and economic limitations on the management. Their report delved deep into colonial structures of knowledge, borrowed extensively from Orientalist understandings of the tribal peoples to reinforce the notion of the workers in Assam. This committee conferred with the managers and assistant managers for informed knowledge about the culture and ways of life of the labourers.[79] The outcome was a much more contingent solution.

Yet the Duars Committee report was no mere refutation of the Christophers-Bentley critique: the two reports had a great deal in common in their advocacy of sanitary facilities and living space within the plantations. Many of their suggestions regarding the system of medical care in the plantations also converged. Thus the conflict in the divergent discourses of the two reports were between two interpretations of the responsibility of the planters; one, that of the experts from outside who thought of the planters as capitalists who had to ultimately retain and sustain productive labour, the role of state being to oversee the welfare of the labourers. The alternative view was articulated by the plantation doctors and the

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[79] The principal inspiration for this understanding of the reification and of the essentialisation of the customs and culture of a colonised people is Edward Said, *Orientalism*, London, 1995. Almost every planter's memoir resonates with many instances of the reification of the labourers' culture as well as their infantilisation. For one such instance, see interview with William Webb, Mss Eur R 187,(APAC). In 1911, in response to a government resolution on compulsory education, the DPA announced that 'the Association does not approve of the principle of compulsory education...and considers that any attempt at compulsory education of coolie children is unlikely to be successful or to produce beneficial results commensurate with the disturbance of ancient customs involved'. *D.P.A.AR.1911,* Calcutta 1912, (APAC),p.iv. Nor was this infantilisation and primitivisation limited to the European planters. The Indian planters generally made similar arguments. When the first labour seat was proposed by the GOI in 1933 for the 1935 Provincial Assembly elections, the Dooars Planters' Association, the Darjeeling Planters' Association and the Indian Tea Planters' Association protested on the grounds that the labourers were simple and ignorant peoples incapable of comprehending or appreciating democratic representation. See *D.P.A.A.R.1932,* Calcutta 1933, (APAC), p.112-5.

local administration who saw labour welfare in terms of paternalistic benevolence and the occurrence of diseases a problem of the peculiarities of location. In the process, they categorically denied that the workers were ill-paid, attributing some of the obvious malnourishment either to their state of impoverishment prior to arrival or to the uniquely high price of food stuffs in the particular year of Christophers-Bentley's survey.

Both the reports contained certain sites of consensus; one was the general incompetence of the resident doctor babus; another was the need, in the long term, to invest in long-term medical infrastructure, including dispensaries and qualified doctors, safe sources of water supply to prevent cholera and the gradual introduction of quinine for the workers. The planting industry was quick formally to endorse and publicise the distinction pointed out by the Duars Committee Report between the economic status of the workers and the sanitary state of their living conditions. While they were willing to admit deficiencies in the latter, they unwaveringly defended the adequacy of the former. [80] The Duars Committee strongly argued against legislation of the kind in effect in Assam, which would bind the labourer in a penal contract and simultaneously make the management responsible for the health care of its labourers.[81]

In response to the reports, the provincial government proposed legislation where the tea estates would submit vital statistics of their labourers. They were to be checked by the Civil Surgeon of the district, who would also conduct a minimum of sixty annual inspections among the tea estates and make recommendations for the

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[80] See speech of the Chairman, DPA, at the annual general meeting of 20 Jan.1912, *D.P.A.A.R.1911,* Calcutta 1912, p. ix. See also *I.T.A.A.R.1911,* Calcutta 1912, p. 9.
[81] *Report of the Duars Committee,* p. 29.

improvement of the sanitary and medical conditions which would be in the nature of suggestions and therefore not compulsory. It did not provide for government control over the recruitment process, or lay down regulations for the compulsory institution of dispensaries, hospitals, or sanitary facilities. It proposed to implement such a system initially in Western Duars for a term of five years, and then extend possibly to extend its provisions to the tea estates of Darjeeling and Terai. The Jalpaiguri Labour Act was passed in 1912. In the next chapter we will examine the consequences of the legislation in the health care system within the tea estates.

Chapter 5

The Plantation Enclave, the Colonial State and Healthcare

5.1. Introduction: Healthcare in the Plantations

In this chapter, I will examine public health and medical infrastructure in the tea plantations in the context of their physical location and economic position as enclaves of specialised medical attention. An analysis of disease, medicine and health in a plantation economy can be made from an understanding of public health in a privileged area of colonial economy; were the public health measures which were not undertaken in rural India due to lack of financial resources, carried out in the tea plantations?

Official discourse and planters' perspectives emphasise the view of the plantations being a privileged, segregated sector so far as the availability of medical care was concerned. This was attributed to the view, articulated in various government reports as well as by planters associations, to stress the economist logic that planters invested in medical care to ensure high productivity. I intend to argue that though tea plantations were often constituted as areas of focus of government policies in public health, as well as sites for the study of diseases prevalent in the plantations, the provisions for health care did not follow the pattern of 'privilege' or the purpose of better health care for the labourers . The management of disease in the tea plantations was dictated by a range of imperatives, some economic, others political and each such contingency was related to the nature of the plantation system as it developed in north Bengal in the colonial period. The logic of 'economic imperatives' that were supposed to impel sanitary policies within a controlled

population is a functionalist notion. Such logic was often articulated in the discursive practices of the planters and even more particularly of the medical officials who worked in the plantations. A closer examination of the sanitary policies and aspects of disease management in the period, however, reveals a world that was enmeshed politically, socially and economically in many ways to form a system which had several contradictions inherent to it.

In this chapter I intend to demonstrate that several factors disrupted the functionalist idea that planters invested in medical and sanitary infrastructure within the plantations because it was commercially important for them to keep their labour healthy. There was a difference between the rhetoric and practice of the functionality of productive labour. The northern Bengal plantations did not have to spend too much money or effort to recruit labour. In colonial Duars and Darjeeling labour was relatively abundant (more so than in Assam, for instance). The absence of a system of indentured labour furthered a plantation economy that borrowed extensively from pre-colonial socio-economic relations, but had features that were uniquely colonial. While the pursuit of profit and a monopoly over cheap labour informed most of the approaches taken by the tea plantation managements, both European and Indian, the managements claimed that it was a mode of production that sustained a paternalistic relationship between the manager and the workers. Such managerial perspectives informed the pace and nature of the establishment of medical infrastructure within the plantations.

The system of health care in the plantations of north Bengal therefore involved periodic attempts at government intervention, the characteristics of the plantation system itself and the extension of the study of tropical medicine in colonial India in the twentieth century. In this chapter I will also analyse how the relationship

between the plantation system and the colonial state worked out in the years subsequent to the controversial Duars Committee report. This relationship shaped the three most important developments in the region's health care system; the professionalisation of the medical practitioners, the collection of vital statistics of birth and death rates of the workers, and the development of the medical infrastructure of the plantations.

5.2. The 'Doctor Babus' and everyday medical care

When it was not administered ad hoc by the planters, the everyday medical care of the labourers was supposed to be undertaken by the resident medical doctors known as 'doctor babus'. In the last chapter we have seen that these resident medical 'doctors' were usually men of low qualifications who received a modest income and were generally Bengalis. Christophers and Bentley had stringently criticised the doctor babus, their incompetence and general lack of qualifications. Each tea garden, they asserted, was said to have one 'so-called doctor babu', a coolie to assist the doctor babu to dispense with medicines and a 'building or part of one, to be utilised as a dispensary'.[1] However, they met only six of the doctor babus and were appalled at their modes of treatment, which was, as they stated, not only ignorant but actually harmful. In one instance they saw one of them preparing a gargle for a woman who 'was dying of tetanus'.[2] To Christophers and Bentley, the problem was in the system of recruitment and engaging of the medical staff in the plantations: their argument was more about regulation and

[1] S.R.Christophers and C.A.Bentley, *Malaria in the Duars : being the second report to the advisory committee appointed by the Government of India to conduct an enquiry regarding blackwater and other fevers prevalent in the Duars,* Simla 1911 , p.67.
[2] Ibid. pp.68-9.They were also horrified at seeing a labourer was given nitric acid for persistent ulcers in the leg. Ibid.p.69.

registration of the local medical professionals. To that extent this was a concern about professionalisation:

> Apparently anyone who cares to call himself a "doctor *babu*" may be engaged.....Their medical knowledge in our experience is extremely limited and their treatment of the sick as it affects the general coolie population is in our opinion in the great majority of cases of no value whatsoever. The making up and the administration of coolie medicines is generally done in a most casual and unprofessional way. Fever, if treated at all is, as a rule, ignorantly and inadequately treated. In a case of fever lasting several days we have seen a single five-grain tabloid of quinine given. Ulcer cases are almost completely neglected, except when a manager interests himself specially in some case, a little power or carbolic oil is given to the coolie, who is left almost entirely to his own resources for dressing the sore.[3]

Inherent in this criticism of the doctor babus was a larger critique of the medical establishment of the tea plantations. They also suggested that, apart from the lack of qualifications, the social status of the doctor babus, and their insecurities about their jobs contributed to some of their indifference. Christophers and Bentley remarked that the doctor babus frequently did not register the deaths in a tea garden because 'Too often, ... these men... are convinced that it is against their own interests to report the occurrence of more deaths than they can possibly avoid reporting'.[4] Moreover, often it was impossible for a single doctor babu to visit all the coolie lines, especially in the larger tea estates.

The status of the doctor babu appears to have been marginal and he performed other services in the tea garden if required: 'he may for part of his time be employed on clerk's duty, ... taken for granted that his medical duties are insufficient to require his whole-time service'[5]. If he went on leave, even long leave, it was not considered necessary to appoint someone in his place.

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[3] Ibid.p.68.
[4] Ibid.p.45.
[5] Ibid.p.70.

As a response to this critique of the doctor babus, the Duars Committee specifically investigated the qualifications of the doctor babus in the tea gardens of the Duars and published them: 'Of the gardens which replied to the Committee's Circular, 87 have resident doctors (Doctor Babus) of whom 94 in all are employed on these gardens; three of the gardens which have replied have no doctor.' Of the total 94 doctor babus, 26 were either unqualified or had passed a part of some medical course, 11 were from private medical schools, and the qualifications of eight were not mentioned.[6]

The numbers of resident doctor babus were too few in proportion to the population of the workers in the tea estates. The Duars Committee stated that there was one doctor babu for roughly 1,500 labourers and acknowledged that the work was too heavy for one man, particularly where tea gardens were large. They further recommended setting up 'branch dispensaries' in the large tea gardens because it was impossible for one doctor babu to travel to all the coolie lines in the tea garden. But although they addressed the issue of the doctor babus to an extent, the larger question of the medical professionalization in the tea plantation, they insisted, was far too complex to suggest an instant solution. In their report they stated that one reason why qualified doctor babus were not available for work in the tea gardens was that qualified Bengalis from Calcutta were not willing to work in the remote tea districts. Part of the reason for that, they concluded, was that the pay was meagre, (between 40 to 60 rupees per month) but they echoed the planters' argument that on one occasion a tea garden could not appoint a doctor even with the payment of a hundred rupees because the 'itinerary work' of a plantation was not favoured by

[6] *Report of the Duars Committee*, Shillong, 1910, p. 27.

them.[7] The issue of the pay and the qualifications of the doctor babus was a persistent one, to be argued between the state government and the tea gardens, for the next two decades. The Duars Committee represented the planters' view in this issue, as it did on several others, by stating that even though at present the qualifications of the doctor babus were insufficient, it made sense to appoint 'locally qualified doctors' rather than people with qualifications from Calcutta or Guwahati. However, they stated too that in the total absence of hospitals with in-patient facilities in the Duars, the local training of such doctors was at the moment not feasible.[8]

Duars being a notoriously unhealthy and inhospitable area, and the medical work at the gardens extremely arduous and ill paid, very few of the graduates from Calcutta were willing to work in the tea gardens. Moreover, tea garden work was among tribal labourers, and the high caste Bengali doctors were probably reluctant to work with labourers who, in the colonial framework were primitives, a fact that was internalised by the westernised Bengali *bhadralok* and reinforced by Brahmanical notions of ritual purity. For instance, in 1868 the Bengali traveller Jankinath Basak could write a verse on Darjeeling:

> I have been to see Darjeeling
> Sonada Sukna , jhoras at Tindhura
> Mountains at Miling
> Of the Lepchas of the mountains, you can sing many praises!
> Their speech is indecipherable; [nonsensical] *kiring miring,*
> There is nothing they do not eat,
> [As if] they have just come off the trees;
> Their songs and dances
> Are similarly [nonsensical] *dhating dhating!*[9]

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[7] Ibid, p. 29.
[8] Ibid. p. 27.
[9] Quoted by Ratan Biswas, *Bangla Sahitye Darjeeling Jela,* in *Madhuparni: Bishesh Darjeeling Sankhya, 1996.* Calcutta 1996, p. 371. (my translation).

Most tea garden workers in the hill areas of Darjeeling were not Lepchas. They were Nepalis of various castes, who were all termed Paharias (hill people). The labourers called Madesias- the aboriginal peoples of the plains (comprising of Oraons, who were in the majority and Mundas and Santals) who predominated in the Duars were of a similar social status- beyond the pale of Hindu caste system.[10]

In the Duars the inhospitability of the terrain and the remoteness of the tea plantations also contributed to the small numbers of Bengali *bhadralok* class willing to work there. The 'babus' —a class of staff, mostly Bengali, who made their living from clerical or medical work in the Duars tea gardens were few in numbers.[11] A typical 'babu' in a tea plantation, most probably a high caste Bengali with some knowledge of English, burdened with a large family, often in debt and always whining for a raise in pay, personified the figure of a class equally subject to the contempt of the sahibs and alienated from the *sardars* and labourers, who belonged to different social worlds. A satirical verse written by an Assam planter thus represents the low status of the babus in the tea plantations and the ridiculous, often comic figures they were to the British planters:

> THE BABU'S PETITION
> Most Honoured Sir, I humbly beg
> To send this letter by the leg
> Of one poor menial from my house,
> And hope, kind Sir, you will not grouse.
> Its purport, how may I explain,
> For I am put to greatest pain,
> ....
> Kind Sir, in brief, my debts are many

[10] H.H. Risley noted in 1891 that 'In the eyes of the average Hindu the Oraons have no social status all, and are deemed to be entirely outside the regular caste system', H.H.Risley, *The Caste and Tribes of Bengal*, Calcutta 1998, Vol.2. (Reprint), pp. 148.

[11] Dr. D.N. Chatterjee who had served in the erstwhile European dominated coal mines in Bihar as well as supervised a UNDP sponsored programme on birth control in the tea plantations in the Duars in the 1980s pointed out a semantic and categorical distinction between a 'doctor babu' , always distinguished from the 'sahib'. He stated that the terminology of the 'doctor babu' was to represent the inferior status of the doctor, however highly qualified or westernised, vis a vis the plantation management. (Interview with Dr. D.N.Chatterjee, 5 April 2005).

And cash, alas! I haven't any
And family much increasing now,
So I must feed them anyhow.

First twins arrived, in damn great state
At howling fits they both are great
Disturbing peace of wretched mind
Till I am almost mad, I find
....
And so, kind Sir, I humbly pray
Your honour to increase my pay;
For which help I'll daily say
A prayer to heaven that you may
Long life, prosperity enjoy,
And all your childs [sic.] be blessed boy.[12]

Plantation society was segregated; over the decades the babus of the various plantations built their own social worlds, with their own small 'clubs' which, much like the sahibs, organised football matches, had their own 'club' and social events.[13] The pioneering babus, who risked the diseases, wilderness and insecurities of life under the sahibs were not qualified medical men. Several contemporary accounts of clerical work in early twentieth century Duars mention the lack of qualifications of the clerical and medical staff who worked in the tea plantations.[14] One anecdote states that once recruited, the babu (a synonym for clerk) was given a small hut and often the services of a labourer who would cook for him. He was shown the dispensary and the medicines were explained to him by the *sahib*. Thus he was set to make diagnoses and dispense medicines as the doctor babu. Since an advisory manual for the tea planter in Darjeeling had a chapter on kinds of medicines to be

[12] Maurice P. Hanley, *Tales and Songs from An Assam Tea Garden*, Calcutta and Simla, 1928, pp. 96-97. For an analysis of the alienation of the lower-middle class Bengali men who served as ill-paid clerks in contemporary civil services and British mercantile houses in nineteenth century Bengal, see Sumit Sarkar, 'Kaliyuga, Chakri and Bhakti: Ramakrishna And His Times' in Sumit Sarkar, *riting Social History*, Oxford University Press, 1997, pp. 282-357. Located not in the urban centres, but in the remote tea districts, the babu (a category which included the doctor babus) of the tea plantations belonged to the margins of this Bengali class.

[13] Kamakhya Prasad Chakrabarti, 'Cha-Shilper Goda Pottone Bangali Uddogider Bhumika', in *Kirat Bhumi: Jalpaiguri Jela Sankalan*, Jalpaiguri, 1998, pp. 233-240. The sahibs played football, but did not prefer to play matches against the babus. See Subhajyoti Ray, *Transformations on the Bengal Frontier, Jalpaiguri 1765-1948,* London, 2002, p. 92.

[14] Arnab Sen and Brajagopal Ghosh, *Jalpai-Duarser Jalchhabi,* Alipurduar, 2004, pp. 72-73.

dispensed to the coolie, with the instructions clearly stating that the planter was expected to deal with the health of the labourer directly as best he could, the above anecdotes do not seem too far-fetched.[15] In the Duars tea plantations the remoteness of the tea estates, the nastiness of the climate, and the insecurities of life in the area are always remembered in Bengali accounts.[16]

All of the above factors combined to make employment in the Duars an exceedingly unattractive prospect for qualified Indian doctors. The JLA did not legislate for a contractual system of labour. It made provisions for medical and sanitary improvements. But the Act was drafted in consultation with the DPA.[17] The penalty for breach of the Act did not exceed a fine of Rs 200.[18] In any case, the Act did not specifically provide for the employment only of qualified medical practitioners within the plantations. In short, the government and the plantation management negotiated a compromise whereby the registration of the vital statistics within the plantation areas would be inspected annually, but there was to be no legislation to compel the management to provide sanitary facilities or medical relief, or to retain the services of properly qualified doctors.

After the Bengal Medical Registration Act, 1914, the plantation management argued for an exception for the tea plantations as they were a unique case where the native doctors were familiar with the local working conditions. Under the supervision of the European medical officers, they further pointed out that the doctor babu*s* could discharge their duties fairly competently. They negotiated with the government and were allowed to keep the doctor babu*s* in service on the condition that they were

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[15] Anonymous, *Notes on Tea In Darjeeling By A Planter*, Darjeeling 1888.
[16] For instance, see Shankar Rai Chaudhary, 'Cha-Baganer Babuder Sanskriti', in Gautam Rai (eds.), *Uttar Banger Janajati O Luptapray Lok Sanskriti,* Siliguri, 2004, pp. 179-187.
[17] Address of Chairman, *DPA A.R. 1912*, Calcutta, 1913, p. 13.
[18] Government of India Proceedings, Education/ Sanitation, October 1912, Nos. 12-13, Appendix U, (NAI).

gradually to be replaced with qualified practitioners.[19] The very first JLA Annual Report recorded that, 'All estates inspected by me keep a doctor babu, but....the doctor babus are of variable quality....I think that all estates should keep a man who is registered on the list of qualified medical practitioners in Bengal.'[20]

The Civil Surgeons who were inspectors under the Act recommended repeatedly the employment, both by the European and the Indian tea gardens, of men with registered medical qualifications. The DPA argued for leniency and for time to enforce this, based on two factors. The first was, as already mentioned, that qualified doctors were difficult to obtain. The second was the planters' insistence that the doctor babus in the tea gardens were conversant with the locality and the population they were treating, and would be better positioned to treat the labourers than qualified men from outside. A third argument was that the unqualified doctor babus were supervised by qualified medical men, therefore their employment did not adversely affect labour health. In 1915, the officiating Civil Surgeon R.B. Khambata pointed out to the Chairman of the DPA that only there were only three qualified men among the resident medical officers (the doctor babus) in the Duars.[21] The Chairman's reply articulated an argument that would be reiterated over many years by the DPA:

> Yes, I am well aware that the majority of the Doctor Babus are not qualified from schools that are now recognised by Government. At the same time, it should be remembered that many of these men are quite efficient. The training

[19] The employment of medical practitioners who had attended a few years of medical school but not completed their education appears to have been a standard practice in the tea gardens of Assam in the nineteenth century. The government legislated against the appointment of such so-called 'coolie doctors' in 1865. Anil Kumar states that the practice continued covertly, although he provides no evidence for his argument. See Anil Kumar, *Medicine and the Raj: British Medical Policy in India 1835-1911,* New Delhi, Thousand Oaks, London, 1998,p. 34.

[20] *Report on the Annual Working of the Jalpaiguri Labour Act 1912-13,* [Henceforth *A.R.W.J.L.A.*] Calcutta 1913 (APAC), p. 6. Forty -six out of the one hundred and nineteen tea gardens were inspected.

[21] Demi -official letter of Officiating Civil Surgeon Dr. R.B. Khambata to W.L. Travers, Chairman, DPA, 9 July 1915, *D.P.A.A.R.1915,* Calcutta 1916, p. 94.

> that they have received here immediately under a Medical Officer has resulted in many of them being really better at their work than a young fellow, duly qualified but with no experience, would often be.
>
> I do not think that any action should be taken with regard to those now employed, so long as the Medical Officer is satisfied with their work- any drastic action would entail hardship upon men who have improved their medical knowledge and often worked hard and well. We should, however, attempt to fill up vacancies by qualified men if such are available.[22]

Khambata did not agree, for though he did not protest again to the DPA, he recorded his doubts about the validity of Travers's statement in the annual report on the working of the Jalpaiguri Labour Act.

> Many of the Doctor Babus are serving on tea estates for the last several years, and it is true that they must have gained some practical knowledge of diagnosing and treating diseases specially under the guidance of the European medical officers. But this cannot be said of the majority of them, who are merely compounders.[23]

In the annual report of the DPA for 1915 the Chairman's speech noted that 'efforts are being made, at present without success, to obtain the services for Tea Estates of Doctor Babus with recognized qualifications.'[24] Such protestations appear to have been an annual feature. The lack of qualified doctor babus is noted in every year's report on the annual working of the JLA and the Chairman at the annual meeting of the DPA, where the district officials including the Deputy Commissioner were invariably present as guests, argued both that their doctor babus were competent enough and that they were being replaced gradually:

> We were again approached by Government in regard to the employment of qualified Doctor Babus upon our gardens. It was once more explained that, in spite of the offer of very favourable terms of employment, these men are not obtainable.

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[22] Ibid. Demi -official letter of Chairman , DPA, W.L. Travers, to Dr R.B. Khambata, 3 Aug 1915.
[23] *A.R.W.J.L.A.1914-15,* Publication details missing, (APAC), p. 5.
[24] *D.P.A.A.R.1915* , Calcutta, 1916, p. xi.

> ...it should be pointed out that the present type of Doctor Babu, closely supervised by our hard-working British Medical Officers, performs, as a rule, quite satisfactory work.[25]

The assurances by the DPA did not falter; nor did the numbers of unqualified doctor babus in the plantations change in significant numbers. In 1918, there were nine qualified doctor babus in a total of one hundred and twenty six tea estates in Jalpaiguri.[26] In that year the acting Civil Surgeon commented on the abilities of most of the doctor babus, ' In fact I met during my inspection two so called Doctor babus one at Reabari and the other at Gurjaman who are not really safe to be entrusted with medicines.'[27]

The Indian tea estates on the other hand, did not have supervisors at all, and all their doctor babus were unregistered medical men. Once the JLA was passed and the annual reports continued to point out the lack of qualified supervisors, some Indian planters organised themselves into groups and hired qualified doctors as medical officers to supervise the resident doctor babus.[28] The appointment of Indian medical officers in the Indian tea estates replicated the supervisory positions set up in the European-owned tea estates. The newly constituted Indian Planters' Medical Board created two Medical Groups and appointed two qualified graduates as Officers- in charge of each group.[29] The Indian Group Officers- in -charge, like their European counterparts, rarely came into professional contact with the workers.[30] It was the doctor babu who was the resident medical personnel in the tea estates and directly treated the workers, kept the medical registers and dispensed medicines to the

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[25] *D.P.A.A.R.1917*, Calcutta 1918, p. iv.
[26] *A.R.W.J.L.A.1917-18*, Calcutta, 1918. (APAC) p. 4. See also *D.P.A.A.R.1918,* Calcutta 1919, p.206 and Government of Bengal A Proceedings Municipal /Sanitation, May 1920, No. 20-21, (WBSA), p. 25.
[27] *A.R.W.J.L.A.1917-18,* Calcutta 1918, (APAC), p. 3.
[28] *Indian Tea Planters' Association Golden Jubilee Souvenir,* Jalpaiguri, 1965, p. 31.
[29] Ibid.
[30] 'The function of these Group Medical Officers was to assist the Medical Officers of tea estates in serious diseases and consultants and to advise the estates for improvement of their medical and sanitary services'. Quoted from Ibid.

workers. In 1919 the Civil Surgeon Major Munro, back from war duty, found that there were eight European doctors with British qualifications in the European tea gardens, and after the appointment of Indian supervisors by two large Indian plantation groups, 109 out of the 129 tea estates were under 'proper medical supervision'.[31] The focus of medical personnel for 'supervision', both from the tea-estates' and the district administration's point of view, was the control of epidemic diseases as and when they occurred rather than long-term investment for the treatment of sick workers. In 1920 the Civil Surgeon remarked:

> The great majority of the doctor babus in charge of the district are still unregistered men of inferior qualification, but matters are much improved by the increase of proper supervision and this should lead to a better control of epidemic disease. In reply to enquiry the managers of 23 gardens stated that they employed properly qualified men in their dispensaries on further enquiries as to their names, we found that only 7 of these could be found in the register.[32]

The quote above is instructive, for the numbers of unqualified men (all but seven) in the tea estates could still indicate an 'improvement'; if the supervisory element within the tea estates, from the administration's point of view, could ensure the control of epidemics beyond the tea estates into the districts. The next year there were nine supervisors with British qualifications on ninety- four European tea estates, and the number of Indian supervisors with Calcutta University degrees had risen to three, each in charge of eight Indian tea estates. But the number of qualified doctor babus was still seven, two estates (Rahimabad and Damanpur) did not have a doctor babu at all, and a third estate, Oodlabari, had not had a doctor babu for four months at the time the report was written.[33] A year later the situation had not

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[31] *A.R.W.J.L.A. 1918-19*, Calcutta, 1919, (APAC), p. 5. For a celebratory note on the appointment of registered medical personnel and especially European supervisory medical officers in that year, see Chairman' address at the annual meeting, *DPA.A.R., 1919*, Calcutta 1920, p. xiv.

[32] Ibid.

[33] *A.R.W.J.L.A.1920-21*, No publication details available (APAC), p. 5.

changed very much, and one of the qualified doctor babus either left or died, or like some others, his certificate had been found to be false, because the Civil Surgeon reported that there were six qualified doctors in the one hundred and thirty four tea gardens.[34]

In 1924 of out of one hundred and thirty six tea gardens, the number of registered resident doctors was still reported stagnant at seven.[35] In 1928 of a total of one hundred and thirty seven tea gardens, seventeen had a resident doctor holding a registered qualification.[36] In 1931 the number of resident doctors with registered qualifications was thirty -three out of a total of one hundred and fifty two tea gardens.[37] In that year the Royal Commission on Labour mentioned that while there were a few well equipped hospitals on tea plantations in Assam, in most of the smaller tea gardens,

> The compounder takes the place of the medical officer, the dispensary contains a minimum of drugs, whilst the so-called hospital accommodation is uninviting. Indeed our inspections lead us to believe that in some cases it is in fact never used. In certain other gardens no medical provision is made.[38]

In the tea plantations the doctor babu was generally a figure of scorn and was at best tolerated, by the medical professionals of the district administration, and qualified men from outside the tea estates. Within the tea estates, the doctor babu was appointed at a small salary, sometimes doubled up as clerk, and was kept on in sufferance till qualified personnel were available cheaply and in large numbers to render him unemployable.

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[34] *A.R.W.J.L.A.1921-22*, Calcutta, 1922, (APAC) p. 4.
[35] *D.P.A.A.R.1924* ,Publication date and year missing,, p.214, and *A.R.W.J.L.A.1923-24,* (APAC), p. 3.
[36] *DPA.A.R. 1928*, Jalpaiguri 1929, p. 120.
[37] *DPAA.R 1931*, Jalpaiguri 1932, p.67.
[38] *Report of the Royal Commission on Labour in India* London 1931, p.411. [Henceforth *RCLI*].

The Indian tea estates, which had smaller acreage and capital, economised on medical personnel even more than the European tea estates. In 1926, thirteen years after the JLA was passed, there were still twelve Indian tea estates which did not have qualified supervisors, and the Civil Surgeon commented that 'only 26 of the Indian gardens are supervised by registered medical men with Calcutta University degrees' and '12 of the Indian gardens have no such supervision, this should be enforced.'[39]

The informal segregation of the European planting community extended to the medical professionals among them. The European medical officers, as they were designated by the planters, considered themselves a select group of professionals similar in status to the managers and equally distinct from the Indian planters and doctors.[40] Their social world, limited to the European planters and British administrators, informed their professional world, in the exclusive newly formed North Bengal branch of the BMA. In 1920, one of the three Indian medical officers who formed the Indian Medical Board wrote to the Chairman of the DPA with suggestions for funding by Indian and European tea companies towards a medical school in Jalpaiguri to 'substitute these unqualified doctor babus by duly qualified men'.[41] The Chairman of the DPA, maintaining the DPA position that their doctor babus were competent if they performed under the supervision of European medical officers, informed him coldly that such funding would be difficult and added that

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[39] *A.R.W.J.L.A. 1925-26*, Calcutta, 1926, (APAC), p. 3.

[40] All the medical officers in the European tea estates were 'European'- that is to say, they were white, of British descent. Retired British IMS often applied for the position of medical officers in the tea plantations. Their social world was restricted to the Jalpaiguri club and various excursions to the tea plantations for football matches and other social occasions with the planters and with district officials of the government. Marjoribanks, the spokesman for the northern Bengal branch of the BMA, figures prominently as the organiser of football matches, *shikars* and as genial host in the private correspondence of John Tyson, (later Sir John), a ICS officer posted at Jalpaiguri. See for instance, letter from JohnTyson 12 August 1920, Mss Eur E 341/2, (APAC), p. 17.

[41] Letter from Dr T.P. Sanyal, medical officer, Indian Planters' Medical Board, Gopalpur Tea Estate, 13 May 1920 to Chairman DPA, *D.P.A.A..R.1920,* Calcutta 1921, p. 148.

'Your experience of the non-qualified men has evidently been unfortunate, for some of them are efficient and hardworking ...and their knowledge of medicine is fair.'[42] At the same time, E.M. Marjoribanks, secretary of the North Bengal BMA, wrote to the Chairman of the DPA to inform him that T.P. Sanyal, lacking in British qualifications, could not be admitted to the Dooars Medical Association (though he might be invited as an observer) and reminded the DPA that they exclusively represented the medical profession so far as the DPA was concerned: 'We suggest no medical advice be accepted by the DPA except through the Northern Bengal branch of the BMA'.[43] Sanyal would also have found himself, along with Indian doctors of high qualification (distinct from the doctor babus), excluded from the social life of the British planters, officials, and doctors. In this sense his interactions would have been as circumscribed as those of the Indians who were appointed as acting Civil Surgeons during the FIRST WORLD WAR. In 1917 the Officiating Commissioner of Rajshahi, defending the few numbers of annual inspections of the tea estates by the Civil Surgeons, pointed out that the Indian Civil Surgeons did not receive hospitality from the British planters and there being no places for them to halt, they limited the number of inspections.[44] After the Indian Medical Service was Indianized following FIRST WORLD WAR, the strong racial prejudices against Indian medical officials continued. When the DPA and the ITA contributed to the extension of the charitable hospital run by the district board at Jalpaiguri, they made it a condition of their support that the Civil Surgeon (who was ex-officio chairman of its executive committee) would always be British.[45] Exceptions to the condition

[42] Ibid. Letter from Chairman, DPA to Dr T.P. Sanyal, p.149.
[43] Ibid. Letter from Major E.M. Marjoribanks, Dooars Medical Association, to the Chairman, DPA, 28 June 1920.
[44] Letter from Officiating Commissioner Rajshahi Division to Secretary to Govt of Bengal, 16 Sep 1919, Municipal / Sanitation, May 1920, No 16-17, IOR/P/10745, (APAC), p.16.
[45] *D.P.A.A.R.1936,* Calcutta 1937, pp. 71-90.

were conceded by the ITA only during the FIRST WORLD WARI, when it was impossible for the government to spare British officers for civilian duty.[46]

The North Bengal branch of the BMA retained its exclusivity, but did not campaign for more qualified resident medical doctors (doctor babus). Meanwhile, it was not illegal to employ unqualified doctor babus in the northern Bengal plantations; therefore the recommendations of the Civil Surgeon in every annual report to employ qualified men acquired a ritualistic tone. So long as the plantations were not prepared to pay reasonable salaries to qualified men, it would remain difficult to obtain them from Guwahati or Calcutta. There is no direct evidence of the monthly pay earned by the doctor babus in the plantations. Possibly the rates of pay, like infrastructure, varied from one tea estate to another, depending on the size and the capital outlay of the company. There was no doubt that the pay was low. In 1923, a Dr Curjel of the Women's Medical Service, conducted a survey of women in Bengal's industries, and included the northern Bengal plantations in her itinerary. She was hosted by the planters and escorted carefully around the plantations, probably the better provided ones.[47] In her report on women labourers in the tea industries, she remarked that, 'The doctors employed on tea estates rarely possess a registerable qualification, the salary offered being too low to attract better trained men.'[48] Instead, in continuation of the tradition of the pioneering years, any attention to the labourer as an individual depended on the paternal benevolence of

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[46] *D.P.A.A.R.1943,* Calcutta 1945. The British planters were not exceptional in their preferences, for the British ICS officials in *mofussil* (small district) towns refused to consult Indian Civil Surgeons for themselves and their families in 1922 and instead petitioned the Govt of India to arrange for 'European' practitioners from the army or military corps for their families. Government of Bengal Proceedings, Local Self Govt / Medical, July 1923,No. 23, IOR/P/11305 (APAC), p.25. The officials agreed that in Darjeeling and Jalpaiguri the problem did not exist, and 'European officials' could consult 'European medical practitioners' from the tea estates or in the case of Kalimpong, medical missionaries. Ibid. See also Ibid. No.32, p. 33.

[47] See letter of introduction from the president, Bengal Chamber of Commerce, to Chairman, ITA, 14 Feb. 1922, *D.P.A.A.R. 1922, Jalpaiguri,* 1923, p. 85.

[48] Extract from "Womens' Labour in in Bengal's Industries", by Dr Dagmar E. Curjel, Women's Medical Service, India, in *D.P.A.A.R.1923,* Jalpaiguri 1924, p. 97. (emphasis mine).

the manager of the estate, for she added, 'It is however one of the recognized duties of each manager on a tea estate to take a personal interest in the health of his labour'.[49]

The Indian tea planters appealed to the government to partly fund a medical college in Jalpaiguri, probably calculating that they would be able to recruit qualified resident doctors from the institution. The ITPA pointed out that there were no medical colleges in the whole of the Rajshahi division. It offered to pay Rs 25,000, towards the college, and suggested that the European tea planters could pay Rs 50,000 and the district board contribute Rs 25,000. It also offered to collect Rs 50,000 from the residents of Jalpaiguri if the provincial government could provide a sum of Rs 20,000 to start the venture.[50] The government forwarded the letter to the Chairman of the DPA, asking his opinion. The Chairman of the DPA refused to commit any funds towards the college, and stated as a member of the district board that its resources were earmarked 'for urgent expenditure'.[51]

The very small number of qualified doctors within the tea estates reflected to some extent the scarcity of qualified doctors in rural Bengal at the time. The Bengal Medical Registration Act, 1914, made it illegal for anyone to use the title of 'doctor', or for bodies like the district or union boards or railways to appoint anyone of the rank of sub-assistant surgeons, unless they had passed out from a government-endorsed medical college. This made candidates from the several independent medical colleges in Calcutta or elsewhere ineligible to apply for positions in government or semi-government institutions. This was avowedly to standardise the medical education in medicine in Bengal in the western model,

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[49] Ibid.
[50] Letter from Chairman, ITPA to Chief Secretary, Government of Bengal, 21 Feb. 1920, published in *D.P.A.A.R.1920,* Calcutta 1921, p. 146.
[51] Ibid. Letter from Chairman DPA to Deputy Commissioner, Jalpaiguri, p. 147.

which was distinct from the indigenous practitioners who were either *kabirajes* or *hakims*. As the *Indian Medical Record* pointed out, this legislation was not directed against unqualified medical practitioners as such, but was intended to curb independent medical schools, for the graduates of such unrecognised independent medical schools could practise anywhere except in the government institutions.[52]

By the end of the first decade of the twentieth century, there were many such practitioners, who had probably attended a year or two of medical college, or in some cases, passed out from the independent colleges. Such practitioners, who called themselves *daktar/s,* (Bengali transliteration of doctor) often practised in rural Bengal, possibly in competition with the local *kabirajes* and *hakims*.[53] The Deputy Commissioner of Jalpaiguri, wrote to the government that the chief distinction in the district was between those appointed as sub-assistant surgeons in government institutions, and the others, whom he called the 'local native doctors'. He argued against the Bengal Medical Registration Act because he felt that the 'independent medical school man is at any rate better than a kabiraj', and that 'until medical men are a good deal more common than they are at present the moffussil public will, in my opinion, be glad to pay for what they can get without enquiring too closely into its quality'. At the same time, when he further stated that to the 'uninitiated' there was little difference between those from government approved schools or independent schools, and that 'They are all "Native Doctors" and legislation is hardly necessary as far as this District is concerned', he was articulating the opinion

[52] 'The Bengal Medical Bill', *Indian Medical Record,* Vol. XXXIV, No.1, Jan.1914, p.14.

[53] In 1918 the Sanitary Commissioner of Bengal wrote to the government on medical practice in Bengal, 'It is a mistake to think that the people of Bengal do without medical attendance; almost all of them employ some kind of medical practitioner (hakims, baids or kabirajes) , when ill. Recently I ascertained that among certain village communities in one district aggregating 20,000 people, several hundred (700 and 800) persons made their living by one or other forms of medical practice.' Letter from Dr. C.A. Bentley, to Secretary, to Govt of Bengal, Municipal Dept, May 1918, Proceedings of Government of Bengal, Municipal/ Sanitation , March 1920, No.6, IOR/P/10765, (APAC) p.5. Also see 'Unqualified Medical Men in Bengal', *The Lancet,* December 1932, vol.1395.

of the *mofussil* district official who would have to temper government directives to the realities of his district.[54]

The European planters, probably through their experience with precisely such legislation in Assam, had a more sophisticated argument; they argued, as we have seen, that their doctor babus though untrained, had valuable local experience. C.A. Bentley, at that time the Special Deputy Sanitary Commissioner, wrote to the government about the preference for untrained local men to holders of Indian diplomas among the planters;

> ...until recently a strong prejudice existed among both tea garden managers and European medical officers against the employment of diplomaed [sic.] Indian medical men. I have frequently heard it stated that an untrained man who had gained local experience as a compounder in a tea garden ...to be preferred to the doctor babu possessed of a parchment diploma....There are many hundreds of "doctor babus" employed in the tea gardens of Bengal and Assam...*As a result the present position of a very large number of diplomates* [sic.] *from recognised medical schools, is deplorable...It is not an easy thing for such men to establish themselves in private practice, on account of the strenuous competition they encounter*'[55]

The question was therefore not one of unavailability of qualified doctor babus, but of their unavailability at low cost. Therefore the lack of duly qualified Indian doctors and the value of the experience of the local untrained doctor in the planters' discourses have to be situated in the context of the fact that the tea industry in colonial India depended on cheap labour, and the cheapness of the labour of the untrained coolie doctors was the reason for their employment within the plantations. The long and gradual process of the rationalisation of the system of medical care in the tea estates in colonial Duars did not obliterate their presence. In 1938 for a total of one hundred and fifty five tea gardens, there were eighty-seven qualified resident

[54] Letter of officiating Deputy Commissioner, Jalpaiguri, to the commissioner of Rajshahi, 4 August 1913, Government of Bengal A Proceedings, Finance/ Medical , November 1913, No. 42, (WBSA), pp.119-120.
[55] Ibid. Also see IOR/P/9145, (APAC), pp. 123-4. (emphasis mine).

doctors.[56] In 1944 there were still forty-four tea gardens in the Duars that had no qualified resident doctor.[57]

In Darjeeling and Terai, where there was no legislation whatsoever to provide for qualified medical doctor babus, the tea estates employed fewer qualified men. No estimates of the numbers of qualified medical practitioners in the Darjeeling and Terai plantations are available. However, in 1920, prior to proposing a legislation for the surveillance and standardisation of medical and sanitary provisions for workers in all the tea districts of Bengal, the under-secretary to the Government of Bengal announced in the Council that 'In Darjeeling there are tea garden doctors but the number of qualified men both among them and the compounders is not at present adequate'.[58] An enquiry commissioned by the Labour Ministry of the Government of India in 1946, noted the lack of qualified medical personnel and the lack of facilities for medical care within them;

> Out of the 13 sampled gardens in the Terai and Darjeeling, 7 have qualified doctors and 6 have compounders. The Darjeeling Planters Association stated that the majority of the gardens in Darjeeling had only compounders. The majority of the dispensaries however had only a few medicines for preparing fever mixtures and first aid accessories.[59]

This slow and almost stagnant process of change also meant that even the qualified doctors absorbed within the system lost touch with the professional world outside. In 1947 Major Lloyd Jones was commissioned by government to report on the medical standards within the tea estates. He found that the skills of the resident medical doctors had remained fossilised.

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[56] *D.P.A.A.R. 1938,* Calcutta 1939, p.143.
[57] D.V. Rege, *Labour Investigation Committee: Report on an enquiry into conditions of labour in plantations in India,* Simla 1946, p. 90.
[58] Extract from proceedings of Bengal Legislative Council held on Tuesday, 3 Feb 1920, Government of Bengal Proceedings, Municipal/ Sanitation, May 1920, No.27-28, IOR/P/10765, (APAC), p. 64.
[59] Rege, *Labour Investigation Committee,* p. 91.

> The doctor in one garden visited had been employed on the garden for 27 years. Physically he was in good shape, and mentally...alert. But... in his last indent he had obtained several large bottles of tincture of Buchu. ... one felt impelled to ask him why he required such a large quantity. The reply was that it was his normal method of treating gonorrhoea, which was fairly common among his garden labour. The point may not be entirely clear to the lay person, but ...that since the introduction of the sulphonamide group of drugs, Buchu has no place at all in the treatment of gonorrhoea, indeed it is doubtful if it has been used for that condition by any scientific medical man during the last 30 or 40 years.....
> The same principle, though to a lesser degree, is shown in other therapeutic measures [60]

A substantial proportion of medical care in the tea plantations was probably undertaken by the *ojhas* — faith-healers who were probably herbalists from the tribal communities themselves, although there are no references to their role as dispensers of medicine distinct from their role as 'spirit- ousters'. Their existence was rarely recorded, except when religious fervour fomented political dissent, and their contribution to therapeutic care has never been acknowledged by official or medical sources, and must remain a matter of conjecture. The planters themselves probably held the *ojhas* and *bhagats* in a mix of tolerance and contempt, except when they detected the practice of 'witchcraft' which threatened to destabilise working relations within the plantations, when they intervened decisively to stamp it out.[61] Any conclusion about the exact status and place of the *ojhas* in medical practice in the plantations therefore requires a contemporary approach, and is beyond the scope of this work. It can be surmised that given the limited availability of both doctor babus and dispensary medicine, that they comprised an important part of daily medical care.[62] Interestingly, medical missionaries might have filled the vacuum that existed in medical care in the plantations, but there is no evidence of

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[60] E. Lloyd Jones, *Standards of Medical Care for Tea Plantations in India: A Report ,Government of India, Ministry of Labour*, 1947, pp. 12-13.
[61] For instance, see typescript titled 'TEA', Mss Eur C474 (APAC), pp. 3-4.
[62] See Samrat Chaudhury; Nitin Varma, 'Between Gods/Goddesses/ Demons and 'Science': Perceptions of Health and Medicine among Plantation Labourers in Jalpaiguri District, Bengal', *Social Scientist*, Vol.30, No. 5-6, 2002, pp. 18-38.

medical missions except in Kalimpong, which catered more to the population in and around the town that the tea plantations. It was only at the latter end of the colonial period, in 1937, that a Catholic mission established a small dispensary with the grant of government land at Bhogibhita and Gayaganga in the Terai, which catered to the villages as well as the plantations around the region.[63]

5.3. The Jalpaiguri Labour Act and the Enclave in Western Duars

In this section I will highlight the three areas which the annual reports of the Jalpaiguri Labour Act (JLA) focussed on; registration of the labour force, maintenance of vital statistics within the plantations, and the drawing of boundaries of the plantation estates from the villages. I will argue that the attempts to enumerate the labour force, which engaged the attention of the government officials and necessitated the intrusion of inspections, paradoxically endorsed the viability of the plantations as enclaves in government policies. This was often at odds with the interests of the tea plantations themselves because the system depended at critical moments on the labour supplies from outside the estates.

The system of free labour in the Duars, Terai and Darjeeling areas ensured that there was no documentary evidence of the actual numbers of workers or their dependents within the tea estates. There were two ways in which the number of labourers in the tea estates could be ascertained. The first was the estate accounts. The tea estates kept records of the daily tasks (*hazira* and *ticca*) done by the workers. A *dafadar* kept a note of the number of tasks performed by each worker on behalf of the *sardar*, for purposes of payment.[64] This did not, of course, include the numbers of dependents within the estates. Besides, both Arbuthnott and Christophers and

[63] 'Navjeevan Hospital- God's Gift to Gayaganga', *Navjeevan Hospital and Rural Health Care Centre,* Darjeeling, 2003.

[64] J.C. Arbuthnott, *Report on the Conditions of Tea Garden Labour in the Duars of Bengal, in Madras, and in Ceylon,* Shilling, 1904 *Report on the Conditions of Tea Garden Labour,* p. 5.

Bentley noted the numbers of seasonal workers who came down from the mountains to work on clearing the jungles in the winter, whose names were not recorded, and numbers unknown.[65] Christophers and Bentley estimated that about twenty five percent of the labourers settled on the tea estates were dependents, who were not recorded in the garden books.[66] Other temporary workers settled in the *bastis* outside the boundaries of the tea estates and came to work in the peak seasons. Moreover, the name of a worker was removed from the books if he or she did not attend work for more than a month. As Christophers and Bentley noted,

> Another prevalent source of error is due to the general custom of removing from the labour roll the names of any coolies who from sickness or other cause have not appeared at work for a clear month. Such coolies may still be resident...many cases of chronic and long-continued sickness...but they are to a large extent lost to sight.[67]

The other means by which at least the workers settled within the tea estates could be accounted for was through the system of the registration of vital statistics that had been initiated gradually through legislation by the provincial government. In 1873 the Bengal Births and Deaths Registration Act was passed, making it compulsory in some towns.[68] The Bengal Local Self Government Act, 1885, provided for registration of births and deaths by the union committees (at the village level). The agency for collecting the statistics was the village *chaukidar* (watchman), under the Village Chaukidari Act, 1870.[69] As we have seen in the previous chapter, the planters protested strongly against the intrusion of village *chaukidars* within the tea estates. The government gave in and the Act was not extended to the tea plantations of northern Bengal. Vital statistics within the plantations were provided by the managers to the local police *thana*.

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[65] Ibid. p. 2, and Christophers and Bentley, *Malaria in the Duars,* p. 36.
[66] Ibid. p. 36.
[67] Ibid. p. 45.
[68] Kabita Ray, *History of Public Health: Colonial Bengal 1921-1947*, Calcutta, 1998, p. 21.
[69] Ibid. p. 40.

The Christophers-Bentley report emphasised the importance of compulsory registration of vital statistics within the plantations. In Assam, the system of indentured labour had ensured such recording, which made it possible for government to keep an eye on the demographic changes within the area and possibly to take steps to locate epidemics in time to take preventive measures in the rest of the district. The Jalpaiguri Labour Act, 1912, stipulated for a census of the tea gardens, and for the recording of the vital statistics of each tea garden to be inspected by a state government nominee, the Civil Surgeon of Jalpaiguri. The information on vital statistics printed in the annual reports on the working of the JLA 1912 were compiled monthly by the doctor babus and countersigned by the managers of the respective tea estates.

In the same year that the JLA was passed, the Bengal provincial government allotted one representative from the planting districts of Darjeeling, Terai, and North Bengal to sit on the Bengal Legislative Council. Mr A.W. Chaplin, who was elected unopposed for the position, recorded his enthusiasm for the Act at the Council. It would, he said, be welcomed by the planters:

> ... for the reason that it will ensure the accurate registration of vital statistics and thus protect them against exaggerated and irresponsible statements regarding the health of their coolies. The ...coolies on the tea gardens are, as a whole, well cared for and looked after by their employers, and I believe that the working of the Act will tend to show that the death rate is not now abnormal or even as high as is presumed in some quarters. The Act will also, by securing accurate registration of vital statistics, assist the Managers of tea gardens to improve the sanitary conditions of their lines and the health of their labour forces.[70]

In the very first report the Civil Surgeon, Major D. Munro, stated that the census of the population of the tea gardens had been taken but was not reliable, only

[70] *DPAA.R 1912*, Calcutta 1913, p. 59.

approximate. Further, the problem of the dependents who lived in the coolie lines but were invisible in the garden records persisted:

> ...annual census...not...reliable, as the population on tea gardens fluctuates month by month.... Managers were able to tell me the numbers of men who had got railway passes to go recruiting. The number of recruits brought in during the year was also approximately available. The number of people leaving the gardens month by month was also available from the absentee statistics. All these figures however refer to the working population which is different from the actual population in the coolie lines, including a number of children, aged people and outsiders, who are non-workers. For them no figures are available and for that reason I gave up that attempt.[71]

However, he considered that though the statistics lacked accuracy, they were not entirely 'valueless'.[72] He next observed that the birth rate per thousand in the tea gardens (37.97) was higher than in the Jalpaiguri district, (35 per thousand) and that the average death rate (32.77 per thousand) on the other hand was lower than the average in the district (33.81 per thousand) though the death rate in Bengal as a whole was 29.77 per thousand.[73] There were two other observations that were significant: he placed little reliance on the monthly sickness statistics provided by most of the doctor babu*s* in the tea gardens, and at the same time contended that there was no direct connection between the numbers of entries under cholera and the supply of piped water to the tea gardens. Instead, he attributed cholera and the deaths under 'choleraic diarrhoea' to food that was consumed by the workers in the *hats* (markets) located outside the tea gardens.[74]

The very first report on the working of the JLA set the precedent for a pattern that would be replicated in both official and managerial discourses in colonial Duars- that the birth and death rates were invariably better within the tea estates than

[71] *A.R.W.J.L.A.1912* (APAC), p. 1.
[72] Ibid.
[73] Ibid, p. 3.
[74] Ibid, p. 4.

without; and often the Civil Surgeon would confirm the managerial assertions that diseases, when they occurred, were invariably due to external influences. The number of tea estates actually inspected was far from the sixty recommended annually by government.

Table 5.1 Comparison of Vital Statistics in the tea estates of Duars, Jalpaiguri district, and Bengal As Printed In the *Annual Reports On the Working of the Jalpaiguri Labour Act*

Year	Birth Rate in Duars (Per thousand of population)	Birth Rate in Jalpaiguri District (Per thousand of population)	Birth Rate in province of Bengal (Per thousand of population)	Death Rate in Duars (Per thousand of population)	Death Rate in Jalpaiguri District (Per thousand of population)	Death rate in province of Bengal (Per thousand of population)
1913-14	37.97	35.00	35.30	32.77	33.81	29.77
1914-15	36.98	36.60	33.86	29.12	34.57	31.57.
1915-16	35.76	37.03	31.80	27.92	34.18	32.83
1916-17	36.59	33.82	31.89	28.07	33.96	27.37
1917-18	39.48	37.40	35.91	28.07	34.59	26.19.
1918-19	29.51			47.86		
1919-20	34.1			31.75		
1920-21	38.87			29.15		
1921-22	39.78			24.93		

(Source: *Annual report on the working of the JLA* for the respective years. From 1918 the reports ceased making comparisons between the Duars tea estates and the district figures).

During the years when the British Civil Surgeon was away on war duty and was replaced by an officiating Indian, the statistics provided by the managers were more closely analysed. In 1914, the acting Civil Surgeon Dr R B Khambata echoed the reservations of his predecessor about the unreliability of the figures supplied by the tea gardens in the report for the year 1914. Yet again, the figures were favourable in the tea estates; the death rates within the Duars plantations (29.12 per 1,000) as shown in the figures were lower than those in the Jalpaiguri district (34.57) as well as lower than the average in Bengal (31.57).[75] Khambata insisted that the lower death rates did not signify that tea garden workers were not dying in lesser numbers, but simply that they were not at the time resident in the tea plantations:

> ...this death-rate of 29.12 per mille is after all a *crude* death rate, ..does not take into account all deaths which might have occurred in hospital in Jalpaiguri town or in district outside the boundary of tea garden area, although the disease contracted might have been actually on the tea garden. It is by no means an unfrequent occurrence that as soon as cholera or any epidemic disease breaks out the tea garden coolies who have no permanent home in the Duars, leave the garden or the district entirely and die somewhere else...probably in their own district..... The correct thing of course would be to add the deaths of those garden coolies and of their relations who have died outside the garden boundaries, although during life they must have lived actually on the garden. If this important fact is taken into consideration, then the death rate would certainly be higher than what is recorded. [76]

This statement is even more significant in the context of the fact that the year 1914 was one in which cholera was prevalent, in epidemic form, in certain parts of the district. There is a direct contradiction between the statement of the managers and doctors of the tea plantations who attributed diseases, particularly diseases of the bowels like dysentery or cholera, to outside influences and the remarks of the acting Civil Surgeon in 1915 that many of the workers fled the plantations and went,

[75] *A.R.W.J.L.A. 1914*, Calcutta, 1915, p. 2.
[76] Ibid, pp. 2-3.

sometimes to the Jalpaiguri town or even to their villages when afflicted with diseases in epidemic form.

The JLA specified that each employer 'keep registers of all persons employed on the estate ...and of their dependents'.[77] In the first few years, whatever the inadequacies and inaccuracies of collection of the vital statistics, the report purported to provide an annual census of the total population of the tea estates. No formal negotiations appear to have taken place with the government on the issue but from 1918-19, the JLA annual report enumerated only the *working* population of each tea estate.[78] Nor was there any explanation for the change in the system of enumeration.

The reason for a system of vital statistics within the tea plantations with a provision for inspection if required by government was recommended precisely because the workers who lived within the tea estates and who were probably employed during the peak season (or unemployed when they were ill) were excluded from the enumeration. The enumeration of the working population excluded also the *basti* population who provided seasonal labourers for the tea estates. The actual total numbers of such seasonal workers in all the tea estates in Jalpaiguri cannot be ascertained by independent means.

In 1920, the ITA published statistics that showed the total number of outside temporary labour within tea estates (the figures refer only to the tea estates that were members of the ITA) to be 876 (permanent outside labourers) and 2,863 (temporary outside labourers). This was in contrast to the 97,937 labourers who worked within

[77] Government of India Proceedings, Education/ Sanitation, October 1912, No. 12-13, Appendix U, (NAI), p. 13.
[78] *A.R.W.J.L.A.1918-19,* Calcutta, 1919 (APAC), p. 2.

the tea estates.[79] This shows a ratio of very small numbers of *basti* (outside) labourers to the numbers settled within the plantations. There being no independent inspection of the numbers of labourers in the above tea-estates, the figures are impossible to verify. Moreover, there was never any definition of what constituted the 'working population'. All tea estates claimed to settle more labourers than they would need if every one of them worked the entire month, because they pointed out that 'abseentism' and alcoholism prevented the labourers from working more than an average of eighteen days within the plantations.[80]

I have stressed the inadequacies of the system of registration of vital statistics within the tea plantations and the complicity of the Inspectors of the JLA with the management of the tea plantations. It has been argued by Dipesh Chakrabarty in the case of the jute mills of Calcutta, that the employers' attitudes towards labour prevented the development of a system of information collection and the imposition of 'industrial discipline'.[81] Subhajyoti Ray has added to the argument in his understanding of the system of surveillance and the imposition of discipline within Duars. He concludes that instead of a system of surveillance and information – gathering, in a system of free labour the planters devised other strategies for eliciting the loyalty of the labour force. This included supporting some of their activities (such as the brewing of *pachwai* (alcoholic home-brew also known as *hanria*) for sale, the opposition of restrictions on grazing in the forest lands, etc)

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[79] *I.T.A.A.R. 1920*, Calcutta 1921, pp. 390-91.

[80] In 1946 the labour enquiry report reported an 'absenteeism rate' of 31.8, 27.7 and 27.6 for the tea estate workers surveyed in Duars, Terai and Darjeeling respectively and noted that, 'The cause of the high rate of absenteeism has often been explained by saying that the labourer has his own cultivation to attend to. This explanation does not appear to be valid for it is seen that even during the months when a cultivator has little to do on his own land, absenteeism in tea gardens is high. Many managers put it down to laziness on the part of the workers and to their belief that they earn sufficient for their needs by working about 4 days in a week. The workers, on the other hand, ascribe it to the need for rest after the tiresome and arduous work in the tea gardens. Sickness, chiefly, malaria, is also an important cause of absenteeism.' Rege, *Labour Investigation Committee*, p. 79.

[81] Dipesh Chakrabarty, *Rethinking Working Class History, Bengal 1890 to 1940*, Princeton, 1989, pp. 65-115.

which contested the government's attempts to increase its excise and forest revenues.[82]

I agree with Ray that the planters' strategy of identifying with the labourers' interests against encroachments from the state (so long as it did not interfere with their own interests) was a substitute for the strict discipline of the daily muster in the Assam plantations. My argument is that the lack of a systematic collection of vital statistics had less to do with information–collecting for the planters' managerial regime than with the terms of the relations of the tea estates with the state. The system of vital statistics was initiated to facilitate a minimum of government intervention within the tea estates. This was an attempt, on the part of the government, to have some sort of legal qualification to the planters' sovereignty within the plantations. The planters' agreement to it, on the other hand, was occasioned by the object of demonstrating that the tea estates were sanitary enclaves, thereby situating the diseases in the *bastis* outside. As its functioning demonstrated, the annual working of the JLA served to emphasise the tea estates' territories as distinct from those of the *bastis* beyond and re-endorsed the managerial discourse of contamination from without.

This perception was reinforced during the influenza epidemic of 1918-19, through the testimonies of the medical officers within the plantations .The tea estates which sent accounts of the epidemic to the Civil Surgeon noted that the disease came from neighbouring gardens or from the *bastis* or from the outside. The Civil Surgeon reproduced verbatim the reports from the tea estates without qualification: 'At Chulsa Tea Estate, the disease first appeared in July at Metelli bazaar (situated just near the western boundary) having been introduced by some Marwari shopkeepers

[82] Ray, *Transformations on the Bengal Frontier*, pp. 92-3.

on their return from Calcutta. It then spread to the tea garden'.[83] Whereas the New Dooars Tea Company reported that 'that the disease first broke out after the last Dasara holiday in the lines on a lower level...during the first week of December new coolies came from Nagpur and infected others'.[84] The reports follow the same trend; Tondoo Tea Estate stated that 'The disease was introduced into Tondoo Tea Estate early in December by an infected woman from Tandoo Basti', and authorities at Meenglas reported that 'At Meenglas Tea Estate the infection was introduced from the bazaar'.[85] Similar reports came in from Chengmari: 'the disease was introduced by a doctor babu who had been to Looksan to attend a delivery case. A Kaya (Marwari shopkeeper) also brought the disease from a neighbouring bazaar about the same time' and the Civil Surgeon of Jalpaiguri stated that the 'The Manager of the Baradighi Tea Estate reports that the disease travelled up the railway lines, whence it spread to large bazars and the gardens.'[86]

The argument that the bazaars and *bastis* outside the tea plantations were the cause of the spread of disease within the tea estates was accentuated and emphasised, having been validated during the influenza epidemic of 1918-19. The cholera epidemic of 1919, too, therefore reiterated the idea of contamination from without. That year, the Chairman of the DPA in his annual address blamed 'outside coolies' for the spread of epidemics.[87] It was not only influenza but all diseases that were supposed to have originated outside of the tea estates. In managerial discourse, often replicated without qualification in official discourse, this duality persisted. On the one hand the bazaars, the *basti* labourers and the *bastis* themselves emerged as

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[83]Government of India A Proceedings, Education/ Sanitation, March 1919 No. 17-39, (NAI, New Delhi), pp.94-5. Also see Government of Bengal Proceedings Municipal/ Sanitation, April 1919, IOR/P/10521 (APAC), p.7.
[84] Ibid, p. 95.
[85] Ibid.
[86] Ibid, p. 96.
[87] *D.P.A.A.R. 1918*. Calcutta 1919, p. x.

the reservoirs of disease and contamination. On the other, the *faltu* (temporary) and *basti* labourers remained crucial to the functioning of the plantation economy.[88]

The emphasis of the inspections under the JLA was towards the containment of epidemics, preferably within the tea estates. The British Civil Surgeons generally agreed with the management of the tea estates that,

> In Lankapara alone 204 died of cholera. I visited Lankapara in July 1919 when about ten deaths from cholera were occurring daily. The management were doing their best to check the disease by disinfection, vaccination and segregation. The water-supply, which was from pipes, was above suspicion. It was probable that the disease was being spread by contamination of food and milk by flies.[89]

The significant point is that of the problem of the movement of people to and from the tea gardens and the *bastis* outside of the tea gardens. While some of the tea gardens made provisions for piped water from *jhoras*, a majority still depended on the seasonal springs. Further, the vexed issue of the extent of the responsibility of the tea gardens towards everyone who lived within them and the *bastis* immediately outside, persisted. The Chairman of the DPA declared in 1919 that cholera epidemics could be localised due to provision of piped water in some tea gardens, and blamed the *basti* population for the spread of the cholera (whereas the Civil Surgeon, also a European, blamed the contaminated food and milk) and stated that the responsibility for them should rest on the government rather than the tea estates themselves,

> ...your Committee would appeal to Government for some scheme to improve the water-supply and sanitation of the bustee and Government bazaars in the neighbourhood of the tea garden area. We have improved and are continuing to improve upon our estates, but it is disheartening when

[88] In the post-FIRST WORLD WAR years for instance the tea industry announced that the tea plantations in Duars and the ones in Terai which used Madessia labourers faced a shortage of labourers because the influenza epidemic had caused high mortality rates among the estate as well as depleted the 'surplus labour' from the *bastis. D.P.A.A.R.1921,* Calcutta 1922, p. xi.
[89] *A.R.WJ.L.A. 1918-1919.* Calcutta, 1919, p. 3.

> cholera and such like are brought in from the bustees. Try as one may, it is impossible to keep the people on the garden separate from their friends and relations who live outside.[90]

It appears from a perusal of the DPA annual reports and the annual reports on the working of the JLA that there was a consensus between the planters and the district officials that although sanitation within the plantations could be improved, it was the area outside the plantations that was responsible for many of the diseases within, particularly those related to bowel diseases, i.e., cholera and dysentery. Diseases of the bowels, which were second only to various fevers in terms of mortality rates in the Duars, were attributed not so much to lack of piped water within the plantations as to the workers' propensity to eat food that had been spoilt, procured outside the plantations.

The matter of the 'contaminated food stuffs' consumed by the labourers outside the tea estates was raised in 1913 when the manager of a tea garden in Duars wrote to the secretary of the Indian Tea Association to ask for special powers for the European doctors within the plantations, empowering them to ban the sale of any food stuff they considered improper in the *hats* around the tea gardens under their supervision.

> The difficulty is that some of our coolies go to the neighbouring Government bazaars during the week and buy unwholesome food such as dried fish, fruit, unripe, and over ripe, and inferior sweetmeats .....We therefore write to ask whether the Association would take the matter up with Government. The remedy we suggest is that the Medical Officers of the various Tea Companies of Doctor's Association should be empowered by Government to inspect shops at any time, and the report to the Deputy Commissioner of the District on the condition or quality of the food offered for sale. In the event of bad food being found the Medical Officer should have authority to prevent the sale, pending orders from the Deputy Commissioner or the Civil Surgeon. We think in this way a great deal of sickness would be prevented [91]

[90] *D.P.A.A.R.1919,* Calcutta 1920, p. xi.
[91] *DP.A.A.R. 1913,* Calcutta 1914, pp. 175-6.

The question of the inspection of the food in the bazaars had deeper implications, however. The weekly *hats* were the one place where the workers could go out of the tea plantations and mingle with workers from other plantations. Over the years there were several attempts by the management of all the tea gardens in the Duars, not excepting the Indian tea gardens, to limit the *hats* to one day, Sunday (thus circumscribing the mobility of the workers) instead of having *hats* on different days for separate tea gardens. [92] When invited to give his opinion, one British medical officer stated that it would be pointless for a European medical officer to retain the contaminated foodstuff from the bazaars in his jurisdiction and refer them to the Deputy Commissioner for a ban on the confiscated foodstuffs. For if approval for the ban of that item did not come from the Deputy Commissioner or the Civil Surgeon, the medical officer would suffer a loss of face. He argued for independent powers to ban foodstuffs without reference to government officials, much like existing management in other matters:

> If any such scheme were at all to be introduced the opinion and decision of the Medical Officer concerned would have to be absolute ..... The loss of "izzat" in a country like India in the event of the Medical Officer' s opinion being overruled would be fatal to his influence over the coolies in his ordinary work.[93]

Such independent authority of the European manager or in this case the European medical doctor over the *basti* areas remained the mainstay of medical rhetoric throughout. However, there was a discrepancy between the medical discourse of the plantations doctors and the actual practice of the extension of the influence medical officials to the areas outside of the tea estates. The medical officers asked for an

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[92] Ray, *Transformations on the Bengal Frontier*, p.95. The *hats* were also sites of contestation between the planters and the local *jotedars* on whose lands they were often located. In times of scarcity the planters sometimes forced the *jotedars* to reduce the prices in the *hats.*

[93] *DPAA.R.1913,* Calcutta 1914, Letter from Dr James Conway, Central Duars, to the Secretary DPA, 1 May 1913, p. 177.

extension of the influence of the tea estates outside their boundaries, into the bazaars and the *bastis*. But besides the speeches at the annual dinners, there were no attempts by the tea estates to lobby the government for such control. This discrepancy was probably occasioned by the fact that the plantation managers sought whenever possible to transfer the pecuniary responsibility for sanitary provisions to the government. In this case, the DPA decided that it was the responsibility of the government to appoint inspectors to examine the foods sold in the *hats* near the tea gardens and made a petition to the same effect.[94]

In the first five years of the functioning of the Jalpaiguri Labour Act, certain trends emerged. The first was that the registration of vital statistics resulted in information that both the birth and death rates within the plantations were more favourable than those outside the plantations, within the district. The report pointed out moreover the problem of the *bastis* situated outside the tea plantations, which were linked to the tea estates through economic and social networks and exchanges. This perceived link was, when it came to action, however, broken down by the maintaining of jurisdictional divide. While the management within the tea plantations usually insisted that almost every disease apart from malarial fevers was brought about by 'outside' coolies, the responsibility for the sanitation and medical facilities in the *bastis* outside the tea gardens (and sometimes, for populations residing inside the tea gardens who, the management or the doctors insisted, did not contribute to the tea garden) was not assumed by the tea plantations. The authorities, either the state government or the district boards were expected to be responsible for them.

[94] Ibid. Letter from Secretary, DPA, to Deputy Commissioner of Jalpaiguri, 5 May 1913, pp. 178-9.

In 1915, for instance, the Civil Surgeon referred to the water supply within the Duars as the main problem causing diseases like dysentery and cholera, rather than the quality of the food-stuffs available to the workers in the *hats*:

> After fever the most common disease is dysentery...according to them (the Managers) the source...is the food in the hats...If this is true, then it is after all a predisposing or remote cause; the immediate exciting cause is of course the bad water-supply, for diarrhoea, dysentery, cholera and typhoid are essentially water-borne diseases, ...It has been pointed out ...that a jhora is the main source of evil, and a coolie has too much fondness for jhora water in preference to well water....To help the Planting Community in this respect, a very good beginning is made by the District Board of Jalpaiguri. About fifty Raniganj-pipe wells were sunk....in those bustees, which were very severely affected with cholera during last two or three years...and it is resolved that a similar number of wells will be sunk.[95]

That year itself the provincial government, on the recommendation of the Commissioner of Rajshahi, appointed a Sanitary Inspector in Jalpaiguri, the District Board of Jalpaiguri specifying a revision in the rule that the Sanitary Inspector would inspect food for sale in the *hats* for contamination.[96] Planters had representatives in the Jalpaiguri District Board, and its limited funds were directed towards building roads and bridges (for easy transportation of tea) rather than for medical facilities in the region. The Chairman in his address to the general body of the DPA declared in 1919 that,

> The fact that so much improvement has been made in the water supply of our estates, however, localized the attacks of cholera....But your Committee would appeal to Government for some scheme to improve the water-supply and sanitation of the bustee and Government bazaars in the neighbourhood of the tea garden area. We have improved and are continuing to improve upon our estates, but it is disheartening when cholera and such like are brought in from the bustees. Try as one may, it is impossible to keep the people on the garden separate from their friends and relations who live outside. The District Board is doing its best in building wells, but the funds at its disposal are hopelessly inadequate. As a member of the Board, I may state that it was hoped to for employ a special Health Officer with a separate Organization, to cope with

[95] *DPAA.R.1916,* Calcutta 1917, pp. 120-121.
[96] Government of Bengal Proceedings, Municipal / Sanitation, June 1915, No, 8-9, IOR/P/9644 (APAC), p. 16.

epidemics and to study the conditions to improve sanitation. But it has been found impossible to obtain a qualified Indian doctor for that position.[97]

The ambivalent position of the District Board of Jalpaiguri vis a vis the tea estates was highlighted by the issue of the legislation regarding the Bengal Tea Gardens Public Health Bill. This Bill, meant by the government to be the successor to the Jalpaiguri Labour Act, 1912, proposed a separate board (a local, sub-district level organisation, by-passing the Jalpaiguri District Board) which would create and sustain, in effect, a sanitary enclave for the tea estates, similar to the Asansol Mining Settlement Board. It never became an Act. But a discussion of the rhetoric encircling the bill will demonstrate the management strategies and the ambivalence of the government regarding enforcing sanitary measures on the tea industry.

5.4. Rhetoric and Practice: Legislative Proposals and Sanitary Enclaves

The JLA only applied to the tea estates in western Duars, which was under the jurisdiction of the Jalpaiguri district. At the time of its enactment it was intended that it would be extended eventually to all the tea producing regions of Bengal, which included Darjeeling and Terai. But as we shall see, the provisions of the Act could not be extended beyond Jalpaiguri. Even in the Duars tea plantations the Act had limited application and impact.

Its provisions were initially for five years, possibly in order to have a certain infrastructure of sanitation and provisions of government inspection in place. Therefore after the first five years of the functioning of the Jalpaiguri Labour Act, the district officials had to petition for an extension of the Civil Surgeon's extra allowance of Rs 100 for inspecting the tea estates. In so doing, the Commissioner of Rajshahi quoted the Deputy Commissioner of Jalpaiguri, summarising the sanitary arrangements in the tea estates,

[97] *DPAA.R. 1919*, Calcutta 1920, pp. xi-xii.

> while some attempt has been made on the majority of European gardens to carry out the recommendations of the Duars Committee, and the health of the labour force employed, as a whole, is distinctly better than that of the cultivators in the adjoining villages, very little, if any, improvement is noticeable on the Indian gardens, the number of which is steadily increasing...under the circumstances,...there has been any such marked changes in the conditions as to justify the abolition or reduction of the amount of allowance to the Civil Surgeon.[98]

The number of inspections by the Civil Surgeon within the tea estates was far less than stipulated, as the chart below indicates.

Table 5.2 Number of gardens inspected by the Civil Surgeon of Jalpaiguri as per the provisions of the Jalpaiguri Labour Act, 1914-1925

Year	Number of gardens inspected
1914	46
1915	2
1916	2
1917	9
1918	23
1919	5
1920	2
1921	2
1922	19
1925	4

(Source: *The Annual Reports on the working of the JLA* for the respective years)

The provincial government, stating that the number of inspections was impossible for the Civil Surgeon to undertake, proposed instead that the European-owned tea estates should assume the responsibility for their own sanitation, a task accorded to

[98] Memorandum by Commissioner, Rajshahi, 2 March 1918, Govt of Bengal Proceedings, Municipal/Sanitation, May 1920,No 7-8, P/10765, (APAC), p. 11. Griffin sent in a report where he pointed out the several deficiencies in medical and sanitary provisions.

the Civil Surgeon under the JLA. Consequent to the delegation, the Civil Surgeon's responsibility under the Act was to be limited to inspecting the Indian tea estates.[99] This proposal demonstrates the implicit faith of the Bengal government in the European tea estates management. It also follows another familiar pattern of negotiations between the state government and the DPA, that of allocating resources for sanitary improvements. Despite their insistence on the necessity for the control of the *bastis* and the bazaars, the DPA was not willing to stretch its own resources so far as sanitary measures were concerned. It refused to allow the European medical officers to assume responsibility for the inspections and instead suggested that the government should nominate the Deputy Sanitary Commissioner posted in the district to take over the inspections.[100]

Eventually the provincial government reconfirmed the appointment of, in addition to the Civil Surgeon, the Deputy Sanitary Commissioner, Rajshahi Circle, and the Sanitary Commissioner, Bengal, as ex-officio Inspectors under the Act. They also appointed R.G. Griffin, Deputy Sanitary Commissioner and the Special Officer in charge of the on-going hookworm campaign in the district as the Inspector under the Act.[101] Griffin sent in a report where he pointed out the several deficiencies in medical and sanitary provisions in the tea estates.[102] Though briefer, the substance of his report read much like that of Christophers and Bentley. More than a decade after that fateful document was written, the conditions of existence appear to have remained almost unchanged. Griffin noted that though there were some pipes, most

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[99] Letter of Secretary, Municipal Dept, Government of Bengal, to Commissioner, Rajshahi, 19 June 1919, Government of Bengal Proceedings, Municipal/ Sanitation, May 1920, No 13, IOR/P/10765, (APAC), pp. 14-15.

[100] Letter from Chairman, DPA, to the Deputy Commissioner, Jalpaiguri, 5 September 1919. Ibid., p. 17.

[101] Ibid. Notification by Government of Bengal, Municipal Dept, 3 July 1919, p. 15.

[102] Ibid. Letter from Sanitary Commissioner, Bengal to Secretary of Government of Bengal, 16 Feb.1920, pp. 18-19.

labourers relied on *kutcha* wells for water, 'Water-supply, in most cases, ...is badly controlled....Many of the cholera epidemics are traceable to uncontrolled water-supply being infected.'[103] Similarly, he commented on the houses, which were 'overcrowded due to the insufficiency of accommodation', and the workers' food mostly consisted of 'common coarse rice' the supply of which was 'left principally to a band of profiteers, living in each garden, who charge a high rate without regard to the quality'.[104] He noted that sanitation was non-existent, and registration of vital statistics was 'far from satisfactory', yet again referring to the temporary or *faltu* workers; and commented that 'proper and systematic inoculation for cholera and small-pox is badly wanted'. There were some exceptions; a few gardens vaccinated their workers and provided for cheap rice and essential foodstuffs 'owing to the abnormal rise in the price of food-grains' (this was not a regular facility).[105] Griffin's hookworm experiments were conducted within the European tea-estates, his experience therefore was within the European sector. He added that while the European tea estates were impeded by the 'ignorance of the coolies in all sanitary matters', they were nevertheless 'partly carrying out all feasible improvements, many of the Indians are unfortunately lacking in this respect.'[106] Predictably enough the DPA and its employees, the European Medical Officers protested strongly about his remarks on the sanitary and medical provisions in the Duars.[107] An interesting

[103] Ibid, p. 18.
[104] Ibid.
[105] Ibid.
[106] Ibid.
[107] Letter from Commissioner Rajshahi to Secretary to Government of Bengal, Municipal Dept, 5 May 1920. The Chairman of the DPA protested that '...the report presents a very exaggerated view of the present state of affairs, and that it conveys a false impression of the sanitation and medical arrangements, speaking generally'. The Chairman's letter enclosed a note from the honorary secretary of Northern Bengal Branch of the British Medical Association , E.M. Marjoribanks, in which he agreed that Griffin's report was a 'gross exaggeration'. Government of Bengal Proceedings Municipal/Sanitation, Oct. 1920, No.6-7, IOR/P/10765, (APAC), pp. 10-11.

feature is also evident- in both medical and official discourses, in addition to the bazaars and the *bastis,* the Indian tea estates emerged as the focal points of disease.

At the same time, none of the tea estates moved beyond rhetoric into practice, and this included the tea estates of Darjeeling and Terai. The course of the abortive Bengal Tea Gardens Public Health Bill, which I will discuss later, provides an interesting example of this gap between rhetoric and practice. The issue of sanitary enclaves also highlights the role of the colonial government including both the local officials and the provincial government which accorded the tea estates a great measure of independence within their boundaries. Such autonomy was facilitated by the acquiescence of government to the managements' perceptions of the nature, characteristics and the working culture of the tea plantations themselves. When some interventions or recommendations on policy did take place they were pressured through the Government of India, as with the Royal Commission for Labour in 1931.

We have seen an example of the above in the events preceding the Jalpaiguri Labour Act, when the government accepted the planters' testimonies regarding the *sardars*' role of 'village headman' within the tea estates. In 1911, the Factories' Act excluded the tea estate factories from its provisions, which included sanitation for its workforce. The logic for the exclusion was that the tea estates were seasonal factories. After the results of the investigations into hookworm (mostly funded by a Rockefeller grant) showed the shocking incidence of hookworm within the tea industry in Darjeeling especially, there were appeals from individuals within the tea plantations for legislation to ensure conservancy by employers engaging more than

fifty labourers.[108] The Bengal government however, was not particularly comfortable with the idea of such legislation. The secretary in charge, L.S.S. O'Malley, chose to refer instead to the Factory Acts of 1911, which had provisions for sanitation and conservancy, and commented that Mr Irwin 'was a day too late for the fair'.[109] Since the tea and coffee estates (along with some others) were specifically exempt from the provisions of the Factory Acts the comment served no more than to record the government's displeasure towards any initiatives for such legislation. O'Malley went on to elaborate at the meeting that one such statute, the Jalpaiguri Labour Act, was already in place and sketched out the difficulties of such legislation;

> The question of legislation will require careful consideration. The Indian Tea Association, the Darjeeling Planters Association, and the Duars Planters Association should be consulted about such matters as the creation of a central sanitary authority and the financing of it, as for instance, by means of a special levy of tea gardens and possibly on village areas outside their limits. .... As regards the Mining Settlements Act, that measure was a piece of special legislation which was introduced only after other possible measures under other Acts had been tried out and had failed.[110]

The abortive resolution however prompted the provincial government to make enquiries about the views of the district officials and the tea associations regarding the draft bill.[111] O'Malley noted that Griffin's report had stressed the necessity for some kind of legislation for sanitary measures,

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[108] In particular, one Mr Irwin put forth a resolution to the effect in the Bengal Legislative Council. After a sharp reply from O'Malley, the secretary to Govt of Bengal in charge of local self-government, he withdrew the resolution. Extract from proceedings of Bengal Legislative Council held on Tuesday, 3 Feb. 1920, Government of Bengal Proceedings, Municipal / Sanitation, May 1920, Nos.27-28, IOR/P/10765, (APAC), p. 59.
[109] Ibid.
[110] Ibid. p. 64.
[111] Ibid. No 29, Letter from L.S.S. O'Malley to Commissioner, Rajshahi, 27 February 1920, pp.67-68. A similar letter was written to the ITA on 6 March, asking for its opinion on the draft proposals. See p. 72.

> A report...on the sanitary condition of the tea gardens has since been received from Dr Griffin, Special Officer on hookworm work from which the necessity for effective sanitary organisation is apparent...
>
> I am now to say that the Governor in Council is of opinion that if legislation is undertaken, it would be preferable to introduce a special Bill... Before coming, however, to a decision he desires to ascertain the views of the Duars Planters' Association, Deputy Commissioner of Darjeeling and yourself.[112]

I have stressed above the general sympathy with which the district administration regarded the views of the tea estate management as well as their 'European Medical Officers'. The district officers believed that the workers within the tea estates, barring a few stray instances (usually from the Indian estates) were generally well-off and needed no intervention from the government. In 1918, the year when the JLA reported exceptional mortality rates within the tea estates, due to the global influenza pandemic as well as a cholera epidemic, the Deputy Commissioner of Jalpaiguri F.W. Strong wrote to government that

> The coolies in the Duars live under more natural conditions than they do in Assam, are kindly treated, and by no means overworked. They live under more sanitary conditions and enjoy a better water-supply and better medical attendance than the surrounding villagers and are, on the whole, happy and contented.[113]

The degree of trust that the medical and administrative district officials vested in managerial assertions is indicated by the annual reports on the working of the JLA. The statistics provided in the reports were never independently verified and indeed there was no mechanism through which they could be verified. Nor did the local administration wish to interfere in the disease management and health administration within the tea plantations. As discussed earlier, the focus was on

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[112] Ibid.pp.67-8. For the Royal Commission of Labour In India's recommendation for latrines in tea factories, see latter section of this chapter.

[113] Letter from F.W. Strong, Deputy Commissioner, Jalpaiguri to Commissioner Rajshahi, 27 May 1918, Government of Proceedings, Municipal/Sanitation , May 1920, No.10-11, IOR/P/10765, (APAC) p. 12.

firstly, on the control of epidemic diseases in the immediate vicinity of the plantations, and secondly on concluding on the basis of unsupervised collection of statistics within the plantations, that the vital statistics within the tea plantations were more favourable, and hence life in the coolie lines was more comfortable than in the *bastis* outside them.

The annual reports on the working of the JLA were brief documents which did not divulge the morbidity rates of any disease in the tea plantations, except syphilis and leprosy. Probably the 'sickness returns' for leprosy and syphilis were collected due to their potential for infecting the entire population of the district. The sickness count for leprosy began in 1917-18, but the numbers of workers reported by the plantations as afflicted with leprosy were not very high.[114] In 1917-18 when 44 people within the tea estates were recorded to as lepers, the Civil Surgeon remarked that 'other gardens may have overlooked the disease in its primary stage'.[115] A leprosy survey was conducted in 1928 in the Duars by the Calcutta School of Tropical Medicine, which noted that there were many unreported leprosy cases in the plantations.[116] The leprosy count rose after the Calcutta School of Tropical Medicine found the Duars plantations a convenient site for work on a leprosy survey in 1928.[117] In the annual reports of the working of the JLA the Civil Surgeons made no recommendations about the workers afflicted with leprosy. After the survey, the numbers reported for leprosy in the Duars (in the annual reports of the JLA)was higher; in 1930-31 the number was 1,325, in 1931-32, it was 571, and in 1932-33,

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[114] In 1917-18, the number of leprosy cases in the tea estates was 44. *A.R.W.J.L.A.1917-18,* Calcutta, 1918, (APAC), p.4. In 1926, the numbers of workers who had leprosy was 65. *A.R.W.J.L.A.1925-6,* Calcutta, 1926, (APAC), p. 2.
[115] *A.R.W.J.L.A.1917-18,* Calcutta, 1918, (APAC), p. 4.
[116] *I.T.A.A.R.1928,* Calcutta 1929, p. 34.
[117] See letter of P. Maplestone, Hookworm Research Department, CSTM, to the Director, CSTM, 24 April 1928.*D.P.A.A.R.1928,* Jalpaiguri 1929, p. 94.

633.[118] So far as syphilis was concerned, numbers were not reported at all until 1919. In 1919 the Civil Surgeon remarked that 'As usual no case of syphilis has been reported...Experience at the Sadr hospital and the Police Hospital at Jalpaiguri shows that it is not uncommon in the district.'[119] The subsequent reports show numbers of workers with syphilis; in 1920 it was reported at 125, in 1925, 190.[120] In 1930-31 the numbers were 208, and 132 and 207 respectively.[121] There were no further references to syphilis in the annual reports of the JLA. The Act principally served to provide the district government with information about the spread of epidemics, rather than expedite provisions for general health care for the labourers within the plantations in Duars.

The Act was not extended as originally planned to the Darjeeling district the tea plantations of Darjeeling and Terai. Therefore so far as the tea plantations in Darjeeling and Terai are concerned, even though the regular voluntary submissions of vital statistics within the plantations there were probably submitted to the Deputy Commissioner's office, they were not subject to the scant level of scrutiny made to the records of the Duars plantations. Therefore they do not appear in the records of the management or in the government records. The standards of living in the plantations or occasional glimpses of the daily lives of the labourers are found in government records only when a sudden epidemic among the workers would spread to areas outside. One such case was of a disease that resembled beri-beri in Darjeeling, that simultaneously occurred in schools for European students. An investigation by the Civil Surgeon concluded that it was the inferior quality of rice

[118] *D.P.A.A.R.1931*, Jalpaiguri 1932, p. 66, *D.P.A.A.R.1933,* Calcutta 1934, p. 124.
[119] *A.R.W.J.L.A.1918-19,* Calcutta, 1919, (APAC), p. 4.
[120] *A.R.W.J.L.A.1919-20,* Publication details missing, p. 4, and *A.R.W.J.L.A. 1925-26,* Calcutta, 1926, (APAC), p. 2.
[121] *D.P.A.A.R.1933,* Calcutta 1934, p. 124.

(Burma rice) and the adulterated mustard oil bought from local shopkeepers that had caused the disease. Another instance when medical attention was directed to diseases among workers in the Darjeeling plantations was with the hookworm survey conducted in collaboration with the Rockefeller Foundation in 1915-16. As we have seen above, the Government of Bengal refused to enact a law to enforce sanitation facilities in the plantations. The results of the hookworm survey showed a very high incidence among the labourers in the tea plantations. Clayton Lane, the Civil Surgeon who conducted the study judged the incidence of hookworm at 70 percent among the working population of the tea estates. He attempted to prevail upon the planters to install latrines and borrow pits in the coolie lines to prevent this high incidence. Using an economic rationale he urged:

> ...obviously, putting aside entirely the humanitarian point of view, and taking no consideration of such moral obligations as the employer of labour has imposed on him by his position, firstly that infected labour is not capable of the same output of work as uninfected labour, and secondly that it is less reproductive. I believe .... that I am quite correct in saying that so far from your labour being unlimited it is restricted and difficult to replace, and I judge from what I see in the papers that the same difficulty confronts managers of gardens in other parts of India.[122]

Though there was some interest among individual planters in the immediate aftermath of the study, there was no legislation to force planters to provide for sanitation. Nor were the economic benefits of constructing latrines in the coolie lines, so clearly outlined by Lane above, expedite such measures. The Royal Commission on Labour in India, 1931, stated that 'We have evidence to show that a large proportion of tea garden labourers are infected with hookworm'.[123] The report recommended mass treatment of workers and provisions for sanitation for the workers,

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[122] 'Lecture delivered to the Members of the Darjeeling Planters' Association on April 29, 1916 on ' The Incidence, Effects, and Prevention of Hookworm Infection' as they concern the Planter' India Health Bulletin No.1, (Reprint), Simla 1924, (APAC), p. 3.
[123] *RCLI*, p. 409.

> In most plantation areas, however, latrines are uncommon, and although it may be impracticable to have these dotted over the plantation for working gangs, it should be possible to provide a sufficient number near the house lines and in the vicinity of the tea factory. In this connection we deprecate the wholesale exemption of the Assam and Bengal tea factories from compliance with section 13 of the Factories Act on the grounds that such factories are seasonal and built on open spaces where the workers have free access to the jungle.[124]

The government ignored the Commission's recommendation to legislate for sanitation. The planters themselves did not provide for sanitation facilities, regardless of the long-term economic benefits such provisions might have afforded the tea industry. In 1946, in the first survey of living conditions of labourers in the tea plantations after the Royal Commission report, D.V. Rege noted that 'dysentery, hill- diarrhoea, and hookworm are common among the workers on the hills'.[125] With the exception of sporadic medical surveys and the enquiries of the Royal Commission on Labour in India, until the eve of Independence the government did not legislate or enquire too closely within the Darjeeling plantations. In the absence of government legislations, the labourers in Darjeeling and Terai plantations are invisible in managerial records and government archives. As has been demonstrated in the case of hookworm, in the instance when there was a study, the publications of the medical reports were an end in themselves, and did not lead to action.

5.5. Local Self-Government, the Tea Plantations and the abortive Bengal Tea Gardens Public Health Board Bill

Political events in the province and in wider context of the nationalist movement in India played a part in the local politics of the Darjeeling and Jalpaiguri districts after First World War, and influenced the course of government intervention and medical

[124] Ibid, p. 410.
[125] Rege, *Labour Investigation Committee*, p. 91.

policies within the plantations. In 1919, the Montagu-Chelmsford reforms initiated the period of Dyarchy, where certain subjects, such as education, local self-government and health, were managed by ministers who were elected to the provincial councils through an 'electoral college' of representatives elected to the municipal and district boards on a wider franchise than ever before. At the municipal level, the franchise after the Montford reforms extended from six percent to fifteen percent of the population, (except the Presidency towns of Bombay, Calcutta and Madras where the franchise was restricted to house-owners who possessed a property of a certain value) and in rural areas from 0.6 to 3.2 percent of the population.[126] The reforms also aimed to accelerate the process of substituting official chairmanship of municipalities and district boards with non-officials, a measure encouraged by the Decentralisation Report of 1909 and initiated from 1916 onwards.[127] As Tinker has pointed out, although the aim of the Government of India in producing the Montagu-Chelmsford Report was to encourage a graduated policy towards self-government, paradoxically, it resulted in the nationalists, particularly Gandhi and a large section of the Congress's, rejection of power at the local level and an intensification of the nationalist struggle for a change of power in the national political arena.[128] The first ministry in Bengal was thus formed by a minority, politically moderate section led by S.N Banerjea. After an initial boycott, in 1923 a section of the Congress, the Swarajists, opted to participate in the local elections in order to subvert them from within. By 1924, it was evident that the Dyarchy had failed because, as Tinker noted, 'the "transferred" departments were managed by the Members of the "reserved" departments throughout the term of

[126] Hugh Tinker, *The Foundations of Local Self-Government in India, Pakistan and Burma*, London 1968, p. 148.
[127] Ibid.
[128] Ibid. p. 105-7.

second legislature: and so there was no popular control whatsoever over local government policy from 1924 to 1927'.[129]

It was in this period of Dyarchy that the government of Bengal sought to implement the abortive Tea Gardens Public Health Bill. The divergent interests within the district board in Jalpaiguri, and more significantly, the ambivalence of the tea industry about legislation for sanitation and medical facilities, prevented the enactment of a separate Board of Health for all tea plantations in the Darjeeling and Jalpaiguri districts.

The proposal was to form a separate Board of Health in the tea districts, which would provide for the registration of vital statistics as well as standardisation of provisions for prevention of epidemics and provisions for medical care within all the tea plantations of Bengal, including Darjeeling, Terai, and the Duars. The draft of the bill was circulated and reminders were sent to the district officials and the tea associations for discussion of the proposals.[130]

The DPA was initially lukewarm about the suggestion that its arrangements needed any improvement, particularly through government legislation and inspections, however cursory they had been in the past. Their Chairman reiterated the point of contamination from without instead:

> To turn to the proposed legislation, of the formation of a Board of Health. My committee previously placed their views before Government, but since it appears that a Board of Health is desired they are prepared to co-operate as far as possible.... Conditions in Darjeeling vary entirely, and if Boards are to be formed, there should, certainly be a separate one for Duars.
> A large part of the disease which has to be fought upon the Duars tea gardens comes from the "bustee" area which adjoins the tea district. My

[129] Ibid. p. 136.
[130] Letter from A.H.C. Jackson, Under- Secretary to Govt of Bengal, Municipal Dept, to Commissioner, Rajshahi, 14 May 1920,Government of Bengal Proceedings, Municipal / Sanitation, May 1920, No. 26, IOR/P/10765, (APAC), p. 57.

committee most certainly consider that, if legislation is to be applied it must be applied to the bustee area also.[131]

So far as the Duars tea plantations were concerned, the debates regarding the Bengal Tea Gardens Public Health Bill have to be understood in the context of the struggle for control over the district board. As we have noted, the tea plantation areas of Darjeeling and Duars were non-regulation tracts, where district officials held greater power than in regulation districts. In 1919 the devolution of power at the local levels led to the formation of several local boards in Bengal.[132] In Jalpaiguri and Darjeeling districts no village (union) boards were formed. In Jalpaiguri district a local (sub-district level) board was created in only one sub-division (Alipur Duars). In response to a letter from the provincial government with enquiries regarding the establishment of local boards in Jalpaiguri, the Deputy Commissioner and the district board argued to the government for three local boards in Jalpaiguri, including one for Duars.[133] The provincial government would have to legislate separately for the local boards, and this did not materialise.

There were precedents in the nature of administrative solutions in favour of industrial areas situated within a larger district. In Asansol, where predominantly British capital was invested in coal mining, for instance, a Board of Health had been formed within the mining area in 1912. But the Board of Health in Asansol was one of the special local government institutions created for the coal industry. In 1914, after the representations from the Indian Mining Association, the provincial government granted the rights to build roads to the local board of Asansol,

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[131] Letter from W.L. Travers, Chairman, DPA, to Commissioner, Rajshahi, 5 May 1920,Government of Bengal Proceedings, Municipal / Sanitation, Oct 1920, No. 6-7, IOR/P/10765, (APAC), p. 11.
[132] Tinker, *The Foundations of Local Self-Government*, pp. 106-125.
[133] Letter from Secretary Govt of Bengal Municipal Dept to Commissioner of Rajshahi 4 August 1919 and letter from Commissioner of Rajshahi to the Secretary, Municipal Dept, 31 March 1920, Government of Bengal Proceedings, Municipal/Local Self Government, May 1920, IOR/P/10761, (APAC), pp. 121-122.

redistributing the power to make that decision from the Burdwan district.[134] In the jute industrial areas, where British capital also dominated, a similar case was made for the separation of Bhatpara (where the jute mills were situated) from its larger hinterland, Naihati.[135] Such adjustments were special concessions to the industries dominated by British capital, some of which were later taken over by Marwari traders.[136] These areas, with the slow devolution of power at the level of local administration after 1885, retained a great deal of autonomy vis a vis the local elites who assumed control over the allocation of such funds as existed within the district boards.[137] The control of funds of the district board was important for expenditure on infrastructure required for the industry, such as roads and bridges.

In the tea plantation areas, i.e. districts of Darjeeling, Terai and Duars, the situation was different because district officers had special powers and the regulations of Bengal government were not applicable there unless by special ordinance. The

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[134] Government of Bengal Proceedings, General/Local Self -Government, March 1914, OR/P/9375, (APAC), p. 456.

[135] In 1899 the Government of Bengal separated the municipality of Bhatpara from that of Naihaiti, which was dominated by the local landed Indian elite. In Bhatpara itself the jute mill owners were frequently in conflict with the Indian *zamindars* who owned the *bastis* outside the mills where the workers resided. At the same time the jute mill owners depended on an alliance with the local propertied elite especially in times of worker 'unrest'. See Subho Basu, *Does Class Matter? Colonial Capital and Workers' Resistance in Bengal 1890-1937*, New Delhi, 2004, pp. 74-112.

[136] Omkar Goswami has argued that beginning from the post-war years, and particularly after 1930, the managing agencies which controlled jute and coal in eastern India were compelled to sell out their shares to Marwari traders and accommodate some of them as directors in their companies. A few of them were outright bought over by Marwari traders. The Marwari traders could not however buy shares in the tea industry because the British tea companies were registered in the London exchange which the Marwari traders could not reach. See Omkar Goswami, "*Sahibs*, *Babus*, and *Banias*: Changes in Industrial Control in Eastern India, 1918-50', *The Journal of Asian Studies*, Vol. 48, No. 2 (May, 1989), pp. 289-309. The Bengali –owned tea companies were taken over by Marwari traders from the 1940s. See also, Sibsankar Mukherjee, 'Changing Control in Some Selected Tea Producing Companies of Jalpaiguri Town, *Social Scientist*, Vol.6, June 1978, pp. 57-69.

[137] Such autonomy was contested by the local elite, usually ineffectually. The provincial government and the district officer in question usually ruled in favour of the industrial enclaves. In 1919 for instance the Burdwan district board protested the allocation of a large part of the district's collection to the Asansol local board, arguing that it interfered with the administration of the district board of Burdwan as well as deprived the other subdivisions of a fair share of resources for constructing roads. The government overruled the objection on the basis of a letter from the district magistrate. Letter from Secretary Government of Bengal Municipal Dept to Commissioner Burdwan District, 26 Feb.1919, Government of Bengal Proceedings, Municipal/Local Self Government, June 1919, IOR/P/10519 (APAC), p. 71.

devolution of power at the district and local board levels therefore did not occur in Darjeeling district (which included Terai), or Duars, which was a part of the Jalpaiguri district. In both the districts, therefore, the Deputy Commissioners in charge of the district administration had greater civil and police powers than any other district officer within the province. In Darjeeling a local board was established in Kurseong, but there were no union boards at the village level even after the Montagu -Chelmsford reforms. The elected element within the Darjeeling district board remained nominal, and its chairmanship remained in official hands due to 'local reasons'.[138] Evidently it was because the government did not wish to relinquish official control over an important hill-station where Europeans resided in large numbers.[139]

After the Decentralisation Commission report in Jalpaiguri, the district officer argued that legislation for local self -government at the village level was not feasible because it was a 'backward' district and the experiment of such local governance should first be made in the more advanced districts.[140] After the government resolution regarding local self-government was announced in 1918, the Deputy Commissioner initially made a case for his retaining of the chairmanship of the district board and moreover, looked upon himself (and his office) as the arbiter of conflicts between the various elite factions within the district- the Indians and the Europeans and the *jotedars* and the planters:

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[138] Resolution no 290 L.S.G., Government of Bengal Proceedings, 19 Jan. 1931, Local Self Government/Local Boards, Dec 1931, P/11942, (APAC), p. 5.

[139] Hugh Tinker has noted that 'In most provinces officials only retained control in a few backward areas, or in towns with some special character, such as the frontier trading post of Bhamo in Burma, or some of the hill-stations with their hot-weather invasions.' Tinker, *Local Self-Government in India,* p. 120.

[140] Letter from Commissioner, Bhagalpur Division to the Secretary to Govt of Bengal, General Dept, 7 August 1916, Government of Bengal Proceedings, Municipal / Local Self -Govt , August 1917, IOR/ P/10114, (APAC), p. 81.

> With reference to your confidential [sic.] .... asking my opinion as to whether the system of allowing District Boards to elect their own Chairmen should not be introduced in this district,... to introduce such a system in Jalpaiguri would,... be a mistake....Owing to the fact that Jalpaiguri is a planting district the European element on the District Board is exceptionally strong..... if there were any question of electing either a non-official European or a non-official Indian to the Chairmanship, a certain amount of jealousy and racial feeling would inevitably be aroused and the existing harmony would be interrupted.[141]

In 1921, in reply to a question at the provincial legislative council, the government admitted that out of the sixteen members of the Jalpaiguri district board, fourteen were nominated and two elected by the Alipur Duars local board. Of the nominated members, five were officials and of the non-officials, 'three represent the European tea industry, three represent partly the Indian tea industry and partly other interests extending over the whole district and the remaining three may be regarded as respectively the interests of the Bengal Duars Railway, the Cooch Behar State and the Baikunthapur Estate'.[142] In 1923, the Deputy Commissioner of Jalpaiguri relinquished the chairmanship of the district board, and the first non-official chairman was the government pleader, Rai Kalipada Banerjee. The tea industry continued to have representation at the district board. In the 1920s, provincial 'augmentation' grants and local collections from revenue cesses increased district boards' revenues, and they were 'encouraged to expand'. [143] Government augmentation grants to all the districts in Bengal comprised a total of Rs 3.84 lakhs in 1926-27, which rose to Rs 13.85 lakhs in 1932-33.[144]. But as Tinker has pointed out, most of the funds were spent under the head of 'education'; sanitation and

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[141] Letter from Deputy Commissioner of Jalpaiguri to the Commissioner of Rajshahi, 19 March 1919, Government of Bengal Proceedings, Municipal/Local Self- Government, December 1919, IOR/ P/10589, (APAC), p. 171.

[142] Question asked by Kishori Mohan Chaudhuri, at the meeting of 14 March 1921, Government of Bengal Proceedings , Local Self Government / Local Self Government, IOR/ P/10980, (APAC), p. 35 .

[143] Tinker, *The Foundations of Local Self Government*, p. 164.

[144] Naresh Chandra Roy, *Rural Self-Government in Bengal*, Calcutta 1936, pp. 94-5.

health were a very low priority for the elected local bodies.[145] In 1926-27 for instance, the districts boards in Bengal spent only a total of Rs 22 lakhs under the head of 'health and sanitation', which rose to Rs 34,66000/- in 1932-33.[146]

At the same time as we have seen in the episode of the Christophers-Bentley report, the influence of the tea estates, particularly the European ones, extended beyond the tangible benefits of representation within the district board. The circumstances in which the Indian Tea Planters' Association had been formed has been narrated in the second chapter. The largely European DPA contested the rapid growth of Indian owned tea gardens through the purchase of *jote* lands for tea cultivation in the nineteen twenties.[147] Despite conflicts and competition, the ITPA and the DPA had moments of agreement, particularly with respect to restrictions on raising of workers' wages after FIRST WORLD WAR, and later, in the resistance to government when it proposed a labour seat in the Legislative Council in 1937.[148]

The disparity in the planting industry between the Indian and the European planters was important in the context of sanitary and medical facilities within the plantations. The Indian estates, with a smaller acreage under tea and small capital margins, probably cut down costs severely in the provision for medical facilities. Most of the JLA reports noted that while some of the European gardens were attempting to provide piped drinking water to the workers and appointing qualified doctor babus, the Indian gardens made no such attempt. The question of improvement of sanitary facilities within the tea estates, in the perspective of both the DPA as well as the

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[145] Tinker, *The Foundations of Local Self Government*, p. 164.
[146] Roy, *Rural Self-Government in Bengal*, pp. 94-5. The average annual income of a district board in Bengal in 1931-32 was Rs 600,000 derived mainly from local land revenue cesses, ferries, motor vehicles, etc. see Ibid, p. 80.
[147] *D.P.A.A.R.1926*, Jalpaiguri 1927, pp. 56-59.
[148] See Chairman's speech, *D.P.A.A.R,1922,* Jalpaiguri 1923, p.viii. See also, letter from Secretary, Indian Tea Planters' Association to Chairman, DPA, 26 August 1932, *D.P.A.A.R.1932,* Jalpaiguri 1933, p. 120.

Deputy Commissioner, became the question of greater supervision over the Indian tea estates. Simultaneously, most of the JLA reports generally agreed with the DPA in situating the problem of sanitation outside the plantation areas. Therefore the question of control came to rest also on the areas outside of the boundaries of the tea estates.

The third element in this complex relationship was the local *jotedars* who were suspicious of tea estates' control of spreading beyond their boundaries into the *hats* and the *jote* areas. They were also reluctant to concede to the extension of government supervision over their own labourers in the agricultural areas. When the JLA was put through the legislative council in 1912, an Indian member, Dulal Chandra Deb asked for an amendment where the word 'labourers' would be substituted for 'persons' and the words 'for the purpose of carrying on the tea industry or tea cultivation' be added after 'labour'.[149] The government refused the amendment on the grounds that the local administration was entitled, through the provisions of the Act, to make exceptions for employers of temporary labour (for digging a ditch or building a house, for instance), and that it had the right to intervene and ask employers of labourers numbering above fifty to provide medical and sanitary benefits to its employees.[150] Interestingly, the representative of the planters, A.W. Chaplain, supported the government and claimed that tea garden coolies were not labourers in the sense that the word could be employed in the tea estates of Assam, reinforcing their claim that their labourers were free.[151] This incident illustrates the nature of tensions between the local *jotedars* and the planters, with suspicions about the extension of supervision and control by the government

[149] Government of India Proceedings, Education/ Sanitation, October 1912, No. 12-13, Appendix W, pp. 17-19,(NAI).
[150] Ibid.
[151] Ibid.

on both parts. Given the representation and the influence of the tea estates within the district administration, the *jotedars* tended to equate the district administration with the tea planters.

One resentment of the local elites (both the Bengali professionals and *jotedars*) was that a large portion of the funds of the district board was allocated to the tea estate areas. In April 1921 one Babu Kishori Mohan reminded the Bengal Legislative Council that despite a petition placed before the Jalpaiguri board, the district administration spent most of the public works cess (a major component of the district board's income came from the public work cess) in the tea garden areas. The government replied that,

> In the tea garden portion of the *khas mahal* area sanitary and medical arrangements were made at the expense of the tea gardens and not of the Board. A portion of the Board' s income, which otherwise would have had to be spent on medical and sanitation work, was consequently set free and devoted to extra road making in that area.[152]

The fact of the matter was that the district board spent very little of its income on medical and sanitary facilities in the entire district, which included the areas outside of the plantations. In 1921 a government statement tabled at the council meeting revealed that between 1916-17 and 1919-20, the district board's expenditure on medical relief had been 3.9 percent, 3.1 percent and 4.7 percent of its total income respectively.[153]

Grants from the provincial government to the district tended to be concentrated within the tea industry, towards strengthening its infrastructure, which was sometimes opposed by the Indian elites. This was illustrated in one instance; that of

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[152] Government of Bengal Proceedings, Local Self -Govt, June 1921 No 9, IOR/P/10980, (APAC), pp. 9-11. The provincial government made a special further grant of rupees one and a half lakhs for road construction in the tea garden areas.

[153] Government of Bengal Proceedings, Local Self Govt, July 1921, No 50, P/10980,(APAC), p. 29.

providing for deep wells which could supply clean drinking water for the workers, especially in eastern Duars, where the tea estates in the foothills lacked water.[154] If any provision was to be made by boring deep wells, the management's view was that the government should bear the expense. The point articulated by their representatives to the state government was that it was the government's responsibility, as the landlord, to make investigations as to the feasibility of artesian well-boring in the dry eastern tea estates. The Chairman of the DPA noted, in a special address to the Governor who had stopped at Duars in 1913 on his way to Darjeeling,

> We still maintain that so long as the question remains in the experimental state and while the ultimate results are as yet doubtful, it is the duty of Government as our landlord, to aid us in a matter of such great importance to the welfare of the industry and the health of the population[155]

The provincial government subsequently sent an engineer to investigate the possibilities of boring deep wells, especially at the foothills.[156] After the survey was made, government offered to pay half the estimated cost of one lakh rupees for twenty-five borings if the district board would consent to pay the other half of the total costs.[157] The district board however refused to pay.[158]

When the Bengal Tea Gardens Public Health Bill was proposed, the local *jotedars* were discomfited by the prospect of a separate sanitary enclave. Their concern was possibly due to the anticipated split in the public works cess, which was the chief

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[154] The tea estates in the foothills often drew piped water from the *jhoras* for the tea bushes, which were possibly used by the labourers for their domestic purposes as well. In some places water was scarce; Fraser gives an account of laying a pipeline for a newly planted tea estate. W. M. Fraser, *The Recollections of a Tea Planter*, London 1935, pp. 47-51.

[155] *DPAA.R. 1912,* Calcutta, 1913, Pg xiii. See also *Tour[s] of H.E .the Right Hon Baron Carmichael of Skirling, Jalpaiguri, Oct 31st to Nov. 2nd, 1912*, Calcutta, 1912. (APAC), p. 15.

[156] Government of Bengal Proceedings, Municipal /Local Self Government, Sep. 1916, No. 13-16, IOR/ P/9889, (APAC), pp. 15-17.

[157] Ibid.

[158] Ibid.

source of income for the district board.[159] The government replied that although the district roads cess was not to be allocated to the proposed health board, the district board 'might make a contribution'.[160]

The issue of legislative intervention to secure a 'sanitary enclave' for the plantation within the tea estates was therefore complex. On the one hand, the British medical officers within the tea estates sought to externalise the problem and posited the issue of the bazars and the *bastis* as the centres of disease. The European planters too contributed to the discourse of contamination from without, but they primarily sought to externalise the problem and demand government intervention. As influential members of the district board, they succeeded in investing the district board's funds in the appointment of one Sanitary Inspector for the bazaar areas outside the tea estates in 1928.[161] As we have seen the district officials-the Civil

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[159] Question asked by Panchanan Barma, 17 Jan 1922, Government of Bengal Proceedings, Local Self Government/Public Health, Jan. 1922, No 7, P/11163, (APAC), p.9. He also enquired if any members of the district board would be nominated to the Tea Gardens Board of Health.

[160] Ibid. In the statement the government provided the names of the members of the district board at this time. It demonstrates the heavy representation of the official and non-official British element in the district board. It can be seen that the official and the European planting elements were clearly dominant even numerically.

'Name

1. The Senior Assistant to the Deputy Commissioner
2. The Sub Divisional Officer of Alipur Duars
3. The Civil Surgeon, Jalpaiguri
4. The Superintendent of Police, Jalpaiguri
5. The Deputy Inspector of Schools, Jalpaiguri
6. The Honble Mr Aminar Rahman, deceased (Notification appointing Maulvi Kamiruddin Ahmed, Muktear and Jotedar, has been published in the Gazette
7. Khan Bahadur Maulvi Musharruf Hossain- Big jotedar and tea garden proprietor
8. Rai Kalipada Banerjee Bahadur- Government Pleader
9. Babu Jagat Ballav Biswas (since resigned, replaced by Babu Jatindra Mohan Sen Gupta)- Mgr , Chaklajat Estate
10. Babu Bipulendra Nath Banarji- Mukhtear, Baikunthapur Estate
11. Mr G.L.Haig- Manager, Kumai Tea Estate
12. Mr. G. Turbett- Manager, Kurti Tea Estate
13. Mr E.G.Luard- Manager, Choonabhati Tea Estate
14. Mr J.A.Polwhele- Manager, Bengal Duars Rly
15. Mr G.McIntosh- Manager, New Lands Tea Estate', Ibid, p. 10.

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[161] Government of Bengal Proceedings, Municipal/ Sanitation, Nov. 1918, No 3, P/10307, (APAC), p.9. See also address of Chairman, DPA, in *D.P.A.A.R.1918,* Calcutta 1919, p. x.

Surgeon and the Deputy Commissioner, generally concurred with the plantation management in identifying the bazars and the *bastis* as the source of the disease, and opted for accepting managerial assertions regarding the health of the labourers.

The local elite formed a complex grid of interests as their representation within the district board exemplifies. Overall, the Indian planters opposed any measures for sanitary reforms within their plantations; the ITPA stated categorically that there was no need for such a bill, nor was there any public demand for it. It argued instead that,

> It is likely to cause a great deal of harassment to the coolie population in and about the tea-gardens and is likely to scare away *bustee* coolies from the neighbourhood of tea-gardens, the economical effect of which on the garden coolies as well as on the management be severe. Moreover, the isolation of the tea-garden area uncontaminated by touch with the rest of the dist is an impossibility.[162]

The local *jotedars* on the other hand, were opposed to a separate board possibly because it would diminish the area under the district board and its influence because they would be taxed for the funds of a board in which they would have not have significant representation (the proposed board was to have fifteen members of whom one would be nominated by the district board). The district board voiced their disquiet when it pointed out that,

> No separate Board of Health is necessary for the area in question and that the matters dealt with in the Bill may be as well dealt with the district board whose jurisdiction should not be taken away.... A special committee may be constituted consisting of district board members as well as outsiders to deal with the matters.[163]

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[162] Government of Bengal Proceedings, Local Self Government/ Public Health, Oct 1930, No. 61, IOR/P/11872, (APAC), pp. 67-8.

[163] Ibid.p.73. So far as the Asansol Board of Mines was concerned too the district board had protested that the Asansol board received special treatment and provincial grants were not made to the rest of the subdivisions in the district. Like in the Duars, additional provincial grants to the Assam board was spent on building roads for better communications.

Some of the *jotedars* such as Nawab Mosharruff Hossain owned large tea gardens. Hossain was also the vice-chairman of the district board for several years, and a regular invitee to the annual general meetings of the DPA after 1920. In 1927 he became a minister in the provincial government.[164]

The provincial government itself lacked the will to extend interventions within the plantations, either through legislation or inspections within the tea plantations. In the event of contemporary nationalist and labour movements, the government sought to effect sanitary measures within the tea estates through the creation of a separate local board where the planters' influence would predominate. This was in line with its policy on industrial sites elsewhere in Bengal. But so far as the tea plantations were concerned, its proposals were met not only with opposition from the Indian planters but from the British-dominated DPA. It is here that the difference between the rhetoric and practice of sanitary enclaves becomes important, because the DPA insisted that it was willing to co-operate with a separate board provided the plantations were not made financially responsible for the *basti* lands:

> In order to control an outbreak of epidemic disease it is essential that the area which would come under the jurisdiction of the Board of Health should include all the Government Jote and Khas land within a well defined area in the neighbourhood of the gardens. Your Committee has persistently impressed upon Government the desirability of definitely describing the boundaries in the scope of the Bill, but at the same time it should be clearly understood that the Dooars Tea Industry would look to Govt to pay an equitable proportionate amount for all parts of the prescribed area not situated on land leased to Tea Companies.[165]

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[164] *DPAA.R. 1927, Jalpaiguri 1928*, p. vi. The M.L.A. from the European planters' constituency claimed to the Royal Commission in 1929 that the district board would have been 'persuaded' by the DPA if the provincial government had pushed through the legislation. See *D.P.A.A.R.1929,* Jalpaiguri 1930, p. xi.

[165] Address of Chairman, DPA, at the annual general meeting of the DPA, *D.P.A.A.R.1923,* Jalpaiguri 1924, p. vii. It is significant that in the same speech the Chairman of the DPA referred to the special concession made by government to exempt the tea industry from the Factories Act. Therefore the agreement towards a board of health could also possibly have been perceived by both the planters and the government as a compensatory concession towards legislation for labour health.

The lands that would be under the control of the proposed board were demarcated specifically by the DPA—it asked for an extensive sphere of influence for the proposed Board including the *bastis*.[166] The *jotedars* of the *basti* lands, on the other hand, were evidently reluctant to pay an extra cess for the creation of a board of health which would be controlled by the planters. The Indian tea planters, some of whom were also *jotedars*, rejected the plan for the Board.

The Bengal Tea Gardens Public Health Board Bill was introduced, but later withdrawn in 1923. Under the system of Dyarchy, the elected representative controlled the local self- government department but had little power to extend revenues. The finances for all sanitary schemes were localised; they had to depend on the district revenues with a few 'augmentation grants' from the provincial government. All in all, there was very little will on the part of the government to carry through the legislation. Faced with the task of placating the planters on the one hand and the Indian *jotedars* on the other, it chose to withdraw the bill.

A few years later, W. L. Travers, the DPA representative, informed the Royal Commission on Labour in India when it visited the Duars that

> If the Calcutta Agency Houses and Home Companies agree I shall be ready and willing to negotiate with the Government for a Bill under which not only the tea producing area of Jalpaiguri, but also a certain area of adjoining bustee land would come under the control of a Board of Health. I understand that the District Board was opposed to the Bill, but I would appeal to the Board to withdraw their opposition and to aid, not to hinder our efforts[167]

[166] 'Collection of opinions on the Bengal Tea Gardens Public Health Bill, 1923', Government of Bengal Proceedings, Local Self Government/Public Health, Oct.1930, No 58, IOR/P/118972, pp. 67-70.

[167] *D.P.A.A.R.1929,* Jalpaiguri 1930, p. xi.

A proposal to reintroduce the bill in the provincial legislature was revived in 1930, but it was dropped again.[168]

In Jalpaiguri district, thus, the DPA alleged that the Indian *jotedari* interests sabotaged a separate Health Board for the tea plantation areas in the western Duars, and it is undeniably true that the Indian planters and *jotedars* were opposed to such a scheme. But in the Terai and particularly in Darjeeling, where there were no powerful *jotedars* in the district board, neither the Darjeeling Planters Association nor the Terai Planters Association wanted legislation to enforce uniform sanitary measures and medical policies. The Darjeeling and Terai sub-committees of the ITA discussed the proposals when they were first made and a committee including the district Deputy Commissioner even drew up an ambitious plan where the proposed board would absorb the revenues from the Darjeeling Improvement Board. But the general sentiments among the planters were not in favour of the Board;

> Particulars of the proposals were circulated to those concerned, and it was found that the view was very strongly held that in the present condition of the industry the whole scheme was much more elaborate than could be undertaken.[169]

The ITA pointed out in this instance to the government that the Asansol case was different; in Darjeeling and Terai the tea estates were leased directly from the government and therefore it was the government's responsibility to pay for the costs of the proposed board.[170] Thus, they echoed the sentiments of the Planters' Association in the Duars. The government did not press for legislation for Darjeeling and Terai separately. In 1931 the Royal Commission for Labour in India recommended a board where the planters' representatives would predominate and

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[168] Government of Bengal Proceedings, Local Self -Government /Public Health, Oct 1930 No 58-64, IOR/P/11872 (APAC), pp. 60-119.
[169] *I.T.A.A.R.1920,* Calcutta 1921, p. 38.
[170] Ibid.

make decisions and implement policies with regard to all sanitary and medical matters within their individual jurisdictions.[171] Neither the planters nor the government took any active steps towards it, and the plans for such sanitary boards remained on paper.

The entire episode of the abortive Tea Gardens Public Health Bill highlights a paradox in the concept of the plantations as enclaves. While the government acknowledged the plantations as special zones that might have local institutions to sustain a distinct sanitary and medical enclave, the planters themselves either partially (in the case of European planters) or wholly (so far as the Indian planters were concerned) rejected the notion. Why this rejection, for as we have seen above the planters and their medical officials made clear distinctions between the unsanitary *bazaars* and *bastis* and the relatively sanitised tea estates? The answer, unsurprisingly, was economic; the *bazaars* and the *bastis* were needed to sustain the plantation economy. At the same time, as we have seen above, both in the Darjeeling and Duars districts, the planters associations demanded that the government as the tenant should pay for the cost of sanitary measures in the *bastis* and *bazaars.*

5.6. The Medical Economy of the Plantations

The dynamics of the system of health care within the plantations was determined in the context of profits and parsimony. The relations of production were particular to colonial capitalism; with workers as subsistence farmers, the use of intermediaries such as the *sardars*, and the particular context of racial authority that was such an integral aspect of the relationship between the planters and the workers. In such a situation the provisions for health care retained the element of arbitrariness that had

[171] *RCLI,* p. 418.

been their characteristic in the pioneering years. The authority of the individual managers, the *burra sahibs*, over the health care system in the plantations (as in everything else) prevented the economic rationalisation of medical services in the tea plantations. In 1947, when the first-ever comprehensive survey of medical facilities in the tea estates of India was conducted by the Government of India, Jones explained that,

> The great drawback is that the health policy still remains in the hands of the individual managers to a very great extent, and this is of great importance when matters involving capital expenditure are at issue. The majority of managers are still paid on a basis of a fixed salary plus percentage of profits....there is a very natural tendency to cut down on expenditure which, although it might be profitable as a long term policy, is not going to show any dividends during the existing manager's term of office. This affects the amount a manager is likely to spend on any long term health policy very adversely.[172]

The system of pay linked to percentage of profits and the short-term vision it induced determined the overall strategy of the tea companies in northern Bengal. Therefore investments in infrastructure such as piped water and proper plinths for the workers' houses were limited to a few of the larger tea estates, where too, they were not maintained regularly. This reinforced the paternalistic system where care for the labourer was incorporated in the system of supervisory benevolence. The availability of health care during sickness was a privilege which a loyal worker might or might not receive; it depended on the benevolence of the planter. Jones noted a striking instance of this system:

> In one particular case a company had spent over 1,000 rupees on expensive treatment for one of their coolies who was suffering from an obscure medical complaint, but refused a water point inside their garden hospital,

[172] *Standards of Medical Care for Tea Plantations in India, A Report By E. Lloyd Jones, M.D. Deputy Director General of Health Services (Social Insurance), Govt of India, Ministry of Labour* Delhi,,1947, p. 14.

> although this would probably have been repaid a thousand fold in a few years.[173]

In such a circumstance a great deal of the health care available to the workers was in the form of charity provided by individual, kindly planters, usually as rewards to loyal and hardworking workers. Such a system was not accidental, but represented the very basis of the structural economy of the plantations. The above quote has resonances; we are reminded of the instructions provided to planters in the handbook of the Tea Districts Labour Association:

> The great majority of the Tea Estates situated in the Dooars and Terai have ...adopted 'sirdari' recruitment, which, in view of their birthright of recruiting free from legal restrictions...the onus of making the Estate attractive to labour is thrown on the Management. The ordinary Indian labourer is unable to appreciate and, in fact, cares very little for the conveniences of modern hospitals and medical treatment;...fifty percent of the 'attractions' of an Estate may be summed up in the personality of the Manager...the sahib, in fine, to whom it is possible to go when in trouble and who will trust you if need be with an advance of money; such a sahib is the epitome of attractiveness of an Estate where it is possible to live and work in comfort and without peril to the soul.[174]

Thus managerial discourse replicated the structure of the tea plantation economy which constructed the role of the manager as provider and protector of the labourers. The individual manager's pay on the other hand depended on financial stringency mitigated by occasional acts of generosity to particular labourers. This arbitrariness was replicated downward in the hierarchy. We are reminded here of the *sardar* so reviled in the Christophers-Bentley report, who occasionally threw feasts for his workers but accepted no responsibility for their basic care in times of sickness.

The tea companies, particularly those controlled by the Agency Houses, themselves attempted to cut down costs of health care for the labourer, and to keep costs

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[173] Ibid.

[174] *Tea Districts Labour Association, Handbook of Castes and Tribes Employed on Tea Estates in North East India*, Calcutta, 1924, p. 5.

similarly low for the managerial staff. One instance of the latter was in financing a branch of the Lady Minto Indian Nursing Association (LMINA) in Jalpaiguri, to make available two nurses who would provide services to the planter families in the district. The DPA had made arrangements to subscribe to the LMINA, two of whose nurses were stationed in Jalpaiguri from 1907 onwards. They supplemented the efforts of the European medical officials and stayed over at the plantations at the request of concerned patients, at a fee. They were used for confinements, as well as for nursing. The arrangement was that each tea garden would contribute a certain amount of money, to pay for the annual salaries of the two nurses stationed at Jalpaiguri, which amounted to Rs 2,500/-. The rate initially fixed was half an anna per acre of tea under cultivation for each tea garden. In 1908 itself however, the tea companies dithered about the expense, and the managing agents and proprietors based in Calcutta expressed doubts if it was necessary at all. The British medical officers had to appeal to the ITA through the DPA for greater generosity in the matter of funds for the Minto nurses. The letter of appeal by the doctors, underlined the justification of maintaining a small branch of the Minto nurses' unit in Jalpaiguri itself:

> ...the abandonment of the present scheme would entail removal of the nurses from Jalpaiguri, in which case the only possible alternative would be a reversion of to the practice formerly in vogue, of obtaining nurses from Calcutta, and this is our experience compares most unfavourably with the present arrangement....[175]

While the proprietors quibbled over the expense of maintaining nurses, the British planters and the doctors in the Duars considered it a necessary insurance. The Agents at Calcutta finally conceded to a guaranteed amount based on the acreage of tea planted in each garden, subject to the regular submission of accounts by the

[175] *D.P.A.A.R. 1909*, Calcutta, 1909, pp. v-vi.

Jalpaiguri branch of the LMINA. Apart from the regular 'guarantee fund', the Jalpaiguri establishment of the Minto nurses was further supplemented by subscriptions from the residents of the stations, the Bengal- Dooars Railway, and the 'planters generally'.[176] The incident highlights the reluctance of the management who took decisions in distant Calcutta and far-away Glasgow to spend on medical arrangements in general. The 'guarantee subscriptions' made by the managing agents and the proprietors were inadequate, and most planters contributed personally to the maintenance of the Jalpaiguri branch. They perceived it as both a personal insurance and an act for the common good of the 'planting community'.[177] Although there were occasional disagreements with the Minto establishment in Jalpaiguri, and over the years it provided for the steady supply of reliable British nurses to attend to the planters and their families.[178] Of course most planters sent their children to the 'hills' for the greater part of the year.[179]

Thus, the stringency practised by the managing agencies with regard to medical facilities occasionally extended to its managerial staff. In such cases the local management depended on themselves and private subscriptions from the local British official and non-official population. Another form of gratuitous financial assistance available to planters in times of sickness was through the Tea Planters' Benevolent Institution, a charitable trust set up by the ITA. It was formed and managed to utilise the estate of William Jackson of Glasgow, who in 1921

[176] *DPA.A.R.1909*, Calcutta, 1910, pp. ii-iv.
[177] *DPA A.R. 1912*, Calcutta 1913, pp. xii.
[178] The LMINA nurses were recruited from Britain and usually served two years at each post. See Interview with Dorothy Thomas, who served as a LMINA nurse in Jalpaiguri between 1930-2. Mss Eur/R 136, (APAC).
[179] Interview with Father W.K.L. Webb, Mss Eur/R 187/2, (APAC).

bequeathed half his wealth 'for the purpose of establishing a trust fund for the benefit of tea planters and their wives and families in sickness'.[180]

So far as the labourers were concerned, the medical economy and structure of production within the plantations created a system where the nature and availability of care was capricious and dependent on the will of the individual managers. In areas where more generalised attempts were made to provide medical relief, the issue was connected more to the labourers' daily survival than medical care or sanitary provisions. Thus, as we have seen, after the price rise in FIRST WORLD WAR, some tea estates procured rice and sold it at a discount to their workers. This method of foodstuff distribution was more widely followed during FIRST WORLD WARI, when food supplies where in short supply particularly in Bengal. In the face of the enormous rise in prices the planters attempted to control speculation and high prices in the local *hats*, without a great degree of success. The DPA officially decided to buy rice and distributed a ration to all workers regularly.[181] This was in the context of shortage of labour due to war; Ray has noted that during the war years the DPA's labour rules broke down and the tea estates often competed for *basti* labour and provided them food as enticement.[182]

In other respects too, the planter raj faced unprecedented changes during the last year of the war. In 1946-7, the Communist Party of India organised railway unions at the Bengal Dooars Railway, and also attempted to organise some tea garden workers. The tea garden workers participated with tenant-share-croppers in the

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[180] *I.T.A.A.R.1922,* Calcutta 1923, pp. 23-24.
[181] Percival Griffiths, *A History of the Indian Tea Industry*, London, 1967, pp. 312-319. The *Labour Investigation Committee* noted in 1946 that 'The cost of living has gone up by at least 200 per cent in Dooars since 1939. Similar figures are not available for the Darjeeling district. But it may assumed that the cost of living has gone up similarly there also. ...the labourers' earnings including...concessions has only doubled since 1939'. Rege, *Labour Investigation Committee*, p. 86.
[182] Ray, *Transformations on the Bengal Frontier*, p. 160.

tebhaga movement of 1946-47.[183] The participation of some of the workers in the tebhaga movement prompted fears about a more general Communist uprising within the tea estates, and at this time the planters conceded a raise in the daily wages.[184] However, it was not until Independence that any trade unions could effectively organise within the tea estates, and the organisation of non-communist unions which were perceived by the planters to be moderate was mediated carefully by them.[185]

Another concession in lieu of increased wages, first started by some tea estates in the nineteen twenties, was the payment of money to women workers a little before and immediately after childbirth, and if the infant survived its first year. This was evidently in the context of the labour shortage immediately after FIRST WORLD WAR and the influenza epidemic that followed it. In 1922, Curjel noted the practice in her survey.[186] One of the British medical officers of the D.P.A., Dr McCutcheon, told the Royal Commission on Labour in 1929 that 'as a general rule, we give maternity allowances'.[187] The planters informed the Commission that legislation on maternity benefits was unnecessary because the 'maternity allowances now given voluntarily were sufficient.'[188] The Commission pointed out that there were inequalities in the distribution, '...in certain cases allowances are considerably below the average and in some are non-existent.'[189] In 1937, in an attempt to standardise and fix a ceiling on all benefits received by the workers, the D.P.A. fixed a rate of Rs 15 as the maximum 'to be distributed according to the manager's discretion',

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[183] For an analyses of the tebhaga movement see Das Gupta, *Economy, Society and Politics in Bengal*, pp. 223-37. See also Ray, *Transformations on the Bengal Frontier*, pp. 173-82
[184] Sharit Bhowmik, *Class Formation in the Plantation System*, New Delhi, 1981, p. 148.
[185] Ibid, pp. 149-50.
[186] *D.P.A.A.R.1923,* Jalpaiguri, 1924, pp. 97-98.
[187] *D.P.A.A.R.1929,* Jalpaiguri 1930, p. 165.
[188] *R.C.L.I.* London, 1931, p. 412.
[189] Ibid.

with another ten rupees for the infant in the first year.[190] When the government of Bengal enforced a minimum maternity allowance of Rs 12 per birth, G. P. Macpherson, the planters' representative in the Council, recommended those tea estates which paid more than the sum to continue to pay the extra amount as a long-view investment'.[191] The implementation of the maternity allowance was probably ad hoc and varied from one tea estate to another.[192] In periods of labour shortage, the reproduction of labour must have assumed greater significance. Immediately after FIRST WORLD WARI, when labour shortage was a fact of tea production in all the tea plantations, a government report found that 'Though the [maternity] benefit is paid by most of the sampled gardens in the Dooars, there is no uniformity in the matter.... In the Terai and Darjeeling also, there is no uniformity about payment of the benefit'.[193] Thus, in the interests of the reproduction of its workforce, where the plantations did invest to facilitate the daily survival and the reproduction of their labourers, the investments were ad hoc, as in other health matters.

5.7. The Tribal-Peasant–Labourer in Managerial and Medical Discourse

The idea of the enclave was also constructed through the sustenance of a 'non-industrial' workforce. The payment of task wages to the workers, with the allotment of a small portion of land to some of them for subsistence cultivation of rice and vegetables and the gradual settlement of the many workers outside reinforced many of the basic tenets of the managerial discourses on the labouring population.

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[190] *D.P.A.A.R.1937,* Calcutta 1938, p. 391.
[191] *D.P.A.A.R.1941,* Calcutta 1942, p. xix.
[192] The 'maternity allowance' was possibly perceived as *baksheesh* (a tip) by the management as well as the labourers. See Piya Chatterjee, *A Time for Tea: Women, Labor, and Post/Colonial Politics on an Indian Plantation*, Durham and London, 2001, p. 83.
[193] Rege, *Labour Investigation Committee,* p.92. The amount of the lump sum paid on the birth of a child and if it survived till the first year of infancy varied between ten to eighteen rupees and eight *annas* in the Duars, and as widely as between Rs 2-8-0 to 19-8-0 in the Terai and Darjeeling.

Significant among these was the characterization as a 'non-industrial' working force, with 'primordial culture' and 'conservative natures' regarding acceptance of sanitary practices and medical care.

The migration of peasants from Chota Nagpur and Santhal Parganas to the northern Bengal continued to the middle of the twentieth century.[194] Not only to the tea plantations, from the mid-nineteenth to the early twentieth century peasants from Chota Nagpur also worked in the coal mines of Dhanbad.[195] As the commercial tea plantations flourished in the Darjeeling, migrants from eastern Nepal provided the requisite labour. When, however, commercial success encouraged the staking out of tea plantations into Terai and then the Duars, Paharia labour was no longer sufficient. The planters in the Duars and in the Terai too went hunting for labour, like the tea planters in Assam some forty years previously, to the districts of Chota Nagpur and the Santhal parganas. [196]

The construct of the suitable labourer was established through reifying the cultures of the various communities from the most marginalized parts of colonial India. The demand for certain kinds of labourers on the part of the employers was also

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[194] Bhowmik, *Class Formation in the Plantation System*, pp. 48-9.

[195] Detlef Schwerin, 'The Control of Land and Labour in Chota Nagpur, 1858-1908', in D. Rothermund and D.C. Wadhwa, (ed), *Zamindars, Mines and Peasants: studies in the history of an Indian coalfield and its rural hinterland*, New Delhi 1978, pp. 21-67. They were however not recruited in significant numbers in the jute mills of Calcutta and Howrah in the same period. Arjaan de Haan concluded that the colonial stereotyping of labour led to certain tribes from backward regions not being considered suitable for the discipline of industrial work. In 1921 of the total of 279,854 workers in the jute mills of Bengal, only 1,888 were tribals, that is, Oraons, Mundas, Santhals and Bauris, of whom 1,617 were in 'unskilled' occupations. See Arjaan de Haan, *Unsettled Settlers: Migrant workers and industrial capitalism in Calcutta,* Calcutta 1994, p. 65.

[196] Generally the tea estates in the foothills employed Paharia labour. The employment of a certain community of labourer depended on the individual Manager's prejudices. Fraser noted he would never employ Paharia labour; 'We saw every fault that went with the Paharia. He could not hoe, but the Modessia could, to put it in a nutshell'. See Fraser, *The Recollections of a Tea Planter,* p.96. In 1946, they comprised fifteen per cent of the total tea estate labour. See Rege, *Labour Investigation Committee*, p. 77. For economic reasons for migration see Crispin Bates, 'Coerced and Migrant Labourers in India: The Colonial Experience' *Edinburgh Papers in South Asian Studies* Number 13 (2000), Edinburgh.

significant in the processes of both recruitment and management. Colonial discourses on the indigenous populations were shifting and often contradictory. For instance, as Bates has pointed out, the Santhals were understood to love the open air and were thus put to work in clearing jungles and later on in the plantations but they were also found useful for work in the coal-mines.[197] The conquest and colonization of new lands in northern Bengal occurred simultaneously with the discourses of reification of the cultures and the persons of the native population. Thus Lepchas were reputed to 'make excellent servants'.[198] The Gurkhas on the other hand were at once masculinized as well as infantilised; in the discursive sphere, they were both childlike and valiant simultaneously different from and yet similar to the 'gentlemen soldiers' of Britain who commanded them in the British Indian army.[199]

These discourses did not take place in a political or economic vacuum. The availability of labourers of certain communities for work dovetailed into the understanding and categorisation of them as workers fit for a specific kind of work. This reification was not effected solely in terms of culture; it was also gendered. The stated preference for women labourers in the plantations because their hands were delicate enough to pluck the leaves gently, was linked to the necessity for the procreation and settlement of generations of workers to provide a steady supply of labour for the tea estates.[200] Tribal and low caste women, unlike upper caste women, had traditionally worked in the fields in pre-colonial India. All of these trends lay behind the increasing emphasis and legitimation of scientism and racism in the western medical discourses that validated white bodies as fit for managerial

[197] Bates, 'Coerced and Migrant Labourers in India'.
[198] L.S.S. O'Malley, *Darjeeling*, Calcutta 1907, p. 55.
[199] Lionel Caplan, 'Bravest of the Brave: Representations of the Gurkha in British Military Writings', *Modern Asian Studies,* Vol.25, No. 3, pp. 571-598.
[200] On the gendered construction of the notion of delicacy in tea plucking and labour, see Chatterjee, *A Time for Tea*, p. 193.

positions in the hierarchy of the work place. The discourses on body typologies and labour in colonial India were protean, and often contradictory. But it was the very plurality and contradiction among the discourses that sustained and legitimised them.[201]

The anthropology of the 'aboriginals from Chota Nagpur' thus formed a crucial component of the managerial, as well as medical discourses on labourers. Their histories (economic state before their migration), their culture (their religious beliefs, social mores, marriage customs, fertility rites) their bodies (their racial typologies and perceived immunity from and propensity for other diseases) were studied and framed and often enshrined in medical texts and administrative documents all of which contributed to and informed planters' strategies and government interventions in colonial India.

When the *Special Report on the Working of Act I of 1882 in The Province of Assam During the Years 1886-1889* was written in 1890, the experience of recruiting workers from Assam had already contributed to official and managerial discourses about 'appropriate' communities for labour in the tea estates,

> With reference to the quality of the various nationalities of coolies recruited the general opinion, with one exception, seems unanimous that the best class of coolies in respect of work, as well as of adaptability to the Assam climate are *junglies*, ie, Chota Nagpuris and Sonthals; Bengalis, including natives of western Bengal, Orissa, and the recent importations from Assam, are placed next; while it is generally admitted that coolies from the North West Provinces, Behar and Oudh, in which class Managers are also in the habit of including Central Provinces coolies, are the worst in both respects.[202]

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[201] Waltraud Ernst, 'Introduction: historical and contemporary perspectives on race, science and medicine', in Waltraud Ernst and Bernard Harris, *Race, Science, and Medicine,1700-1960*, London and New York, 1999, p. 6.

[202] *Special Report on the Working of Act I of 1882 in The Province of Assam During the Years 1886-1889*, Calcutta, 1890, p. 16.

The Tea Districts Labour Association formed to facilitate the recruitment of labourers for the tea gardens in Assam and later for the Duars, published a handbook in 1924. It was expressly intended for 'private circulation' among the managers and assistant managers. In its preface the Chairman of the Indian Tea Association stated that the handbook was produced in response to demands from the managers of tea gardens and contained 'in a convenient form information bearing on the various castes and tribes employed on tea estates in northern India'.[203] It included chapters on the Oraons, the Mundas and the Santhals and explanations of their social customs and behaviours. The authors noted that while the languages of the various peoples working in the plantations especially in Assam, could be picked up by a diligent manager, explanations of their customs was essential for the effective management of the labourers. Three appendices, all written by European medical practitioners employed in various tea gardens, incorporated cultural and racial insight with climatic theories of disease to produce a blueprint for both recruitment and administrative provision for health care for the labouring populations in the tea gardens.

Therefore, in Tejpur, one Dr Charles Forsyth noted that 'Aboriginal races, such as pre-eminently those derived from Chota Nagpur flourish on the red bank gardens' whereas 'Coolies from the United Provinces are wholly undesirable'.[204] In the grass lands, on the other hand, where the soil was softer, would 'enjoy a wider choice of labour', though the preference would still be for 'people of the hardy aboriginal races.'[205] Similarly, the immunity of the Meches to malaria and of the propensity of

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[203] *Handbook of Castes and Tribes Employed on Tea Estates in North East India,* Calcutta, 1924,p.i.
[204] Ibid, p. 331.
[205] Ibid. p.332. Similar characterizations occur in Ibid. p.337, p. 340.

certain other aboriginal communities to 'acquired immunity' were all subjects of medical enquiry and managerial interest.[206]

The construction of the jungle *jats* as not only fit for labour but also for acclimatization within the most difficult areas of tea plantations was thus a continuous process. It borrowed from contemporary colonial anthropologists such as H.H. Risley but was also sustained and legitimised by the medical practices of the doctors in the plantations, and their writings further contributed to the construct of the aboriginal peoples especially from certain regions as suitable for the tea plantations. The apparent contradictions within these constructs did not inhibit either the production of knowledge or practice of medicine in the tea plantations. In other words, medical knowledge and practice in the tea plantations both contributed to and were in turn sustained by the discourse of the jungle *jats* in colonial anthropology. As Skaria has argued, the construction of jungle *jats* in colonial anthropology could have been on the basis of several dichotomies between the wild and the civilised, or race, the Aryans being civilised and having driven the Dravidian races to the jungles, or subsistence as hunter/gatherers rather than peasant cultivators, or between literary cultures and codification of law and the absence of such attributes.[207]

In the case of the tea estate labourers, the construction of primitivism of the tribal populations related to their body typologies and fitness for labour as much as it did to their capacity to acclimatize in the environments of the tea growing regions. In 1915, when Oraons were by far the largest community of workers on the tea estates of western Duars as well as substantially, in the Terai, the first Indian

[206] For a discussion on race, acquired immunity and malaria, see Chapter 6.
[207] Ajay Skaria, 'Shades of Wildness: Tribe, Caste and Gender in Western India', *The Journal of Asian Studies* Vol.56, No 3, (August 1997), pp. 726-745.

anthropologist who studied the Oraons (including their anthropometric indices) commented,

> The Oraon is sturdy in his limbs and erect in his bearing. His body is generally well-balanced and the feet firmly planted when walking. His legs are strengthened but the toes are slightly turned out in walking and running...An average adult Oraon male can carry a burden of about two maunds (160 lbs) on his shoulders without difficulty. In one day he can carry such a load to a distance of about thirty or thirty five miles; and this he can do for several days in succession. ....In repose an Oraon adult can abstain from food for about twenty four hours, and in exercise for about twelve hours without much inconvenience.[208]

Simultaneously, the Oraons, as well as other communities of labourers were projected as a primitive people who could barely adjust to the work regime of a tea plantation and had to be protected from the intrusion of civilization that included hospitals and sanitary provisions such as latrines and piped water. This was most evident when a hookworm campaign took place financed by the Indian Research Fund Association with some aid from the Rockefeller Foundation in 1915-17 in the Darjeeling tea plantations.[209] Several planters recorded their appreciation of the hookworm 'experiment' in correspondence to the *Indian Medical Gazette*. One planter from Darjeeling wrote,

> I have not the slightest hesitation in saying that the treatment has had a most beneficial effect. The coolies look healthier and altogether different in appearance, and, on the whole, the general health of the coolies has been better since the treatment. The coolie himself recognises this and, when ill,

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[208]Sarat Chandra Roy, *The Oraons of Chota Nagpur: Their History, Economic Life, and Social Organization*, Ranchi, 1915, pp. 88-89.

[209] 'Report of the Scientific Advisory Board on the subject of ankylostomiasis investigation in India', Government of India A Proceedings, Education / Sanitation April 1917, No. 23-25, (NAI), pp. 1-16.See also Government of India B Proceedings, Education/Sanitation , Aug. 1917, No. 16-17, (NAI), pp.1-6. The results of the enquiry were publicised to the planters by the Civil Surgeon of Darjeeling, Major Clayton Lane. See 'Lecture delivered to the Members of the Darjeeling Planters' Association on April 29, 1916 on 'The Incidence, Effects, and Prevention of Hookworm Infection as they concern the Planter', India Health Bulletin No.1, (Reprint), Simla 1924, pp. 1-5. See by the same author, 'Ankylostomes and Ankylostomiasis in Bengal', *Indian Medical Gazette,* Vol.48, Nov. 1913, pp. 417-423. See also John Farley, *To Cast Out Disease: A History of the International Health Division of the Rockefeller Foundation (1913-1951),* Oxford, 2004, p. 67.

> asks for the Medicine which he had given him for hookworm. I consider this a good testimonial, as it is with the greatest difficulty one can get a coolie to take medicine[210]

But no more was heard of hookworm among tea estate workers in Darjeeling, or in the Terai or the Duars, until a few experts at the Calcutta School of Tropical Medicine sought to make an enquiry in 1920. Instead the Chairman of the DPA responded to the attempts of the Bengal government to eradicate hookworm in the tea estates with a familiar warning;

> The great question is this. Can these aboriginal coolies, for centuries accustomed to their present habits, be persuaded to adopt proper sanitary methods, which would, in time, eradicate the Hookworm pest? We can but try and do our best to educate and teach them. Whether we shall be successful or not time alone will show.[211]

The planters assumed for themselves the responsibility of representing them to any outside authority- whether that authority was a government official or a medical expert. The Chairman of the ITA wrote,

> It is not adequately realised what it means to primitive people suddenly to be transported from the spacious freedom of a Central India forest to the more restricted conditions of life on a Tea Garden, where, in addition to the cramping environment of a civilization, a radical difference in climate has to be endured. [212]

Thus it was not only the tea plant that was transplanted and replanted in the places of the cleared jungles in colonial Duars and Terai, but also the persons of the labourers themselves. These too had to be settled and acclimatized. The planters sought to oversee that acclimatization to the exclusion of any other authority. They

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[210] 'The Anti-Hookworm Campaign on the Tea Gardens' *Indian Medical Gazette*, April 1917, Vol. LII, pp. 131-132.
[211] *D.P.A.A.R.1918,* Calcutta 1919, p. x.
[212] *Handbook of Castes and Tribes,* p.i.

did not always succeed, but the plantation system in north Bengal rested on their premise of such authority.

5.8. Conclusion: Paternalism and Healthcare

'Medical care on tea plantations in India has grown with the industry'

-Major E. Lloyd Jones, Indian Medical Service.[213]

The first report on the standards of medical care by a medically qualified professional after Christophers and Bentley was commissioned by the Govt of India and conducted by E. Lloyd Jones in 1947. Both his report, specifically on the standards of medical care in the plantations, and that of R.V. Rege, the Chairman of the Labour Board of India, who conducted a study on the living conditions of tea garden workers in 1946, testify to the wide-spread availability of certain options for tea garden labourers in terms of sanitation, water supplies, access to a dispensaries, and hospital care.[214] The reports, commissioned by the Labour Ministry of the Government of India, used managerial records, which despite their flaws revealed great improvement in the availability of medical care for the labourers over the years between 1890 and 1947. These included a rise in birth rates, decrease in death rates, decline in infant mortality rates, and the increase in the availability of qualified doctors and medical infrastructure such as hospitals and dispensaries.

At the same time, both these reports also rued the defects in the available statistics, which rendered some of the conclusions invalid or at least tenuous.[give footnote]. Further, their recommendations encompassed a range of measures for preventive and curative medicine within the plantations. Rege's report also strongly recommended a better wage structure and other benefits for the workers, stating the

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[213] Lloyd Jones, *Standards of Medical Care for Tea Plantations in India: A Report*, Delhi, 1947, p.13.
[214] Rege, *Labour Investigation Committee*, pp. 87-94.

existing system to be very inadequate. Partly, these reports anticipated the reformism and optimism of the incipient nation-state. But partly also the reports reveal a duality that reflected a deeper problematic of health care and disease management in the north Bengal plantations: where large scale production for tea was pursued, but within a system that looked to short-term profit. In all aspects, the economic aims and social relations of production did not change fundamentally from the days of the pioneering planters.

To some extent, the story of the system of medical care in the plantation economy of northern Bengal reflected the greater story of the sub-region itself. Just as the jungles were cleared at the frontiers of northern Bengal, where cultivation was commercialized gradually but inexorably, and immigrant populations were brought and settled both on the plantations and outside on the *bastis* as share- croppers, so the administration of health care in the tea plantations too was streamlined and attempts made to fit the labourers into the production of work and their bodies into productive agents of their labour. Therefore, it was evident that on the whole there would be more doctors, midwives, dispensaries, and occasionally even piped water available to the labourers in the plantations in 1947 than there had been in, say, 1890.

However, the process was hobbled, not because it was not a reasonable course for planters to invest in workers' health as the tea plantations became more established (as they did). Not even because there were conflicts between the plantation management and the local government over jurisdiction and responsibility for the preventive aspect of health care in the region. Such conflicts did of course inhibit the development of a vigorous public health system within the tea plantations. But more than any of these was the nature of the tea plantations as they developed, the

territorial sovereignty that the managers claimed, the social relationship of production in the plantation structure - a system where the long-term economic rationale was often obfuscated and a more diffused paternalism prevailed. It was a system that could

condone a manager lending a labourer money in advance for a wedding or a funeral- a personal and intimate gesture at an individual level. But it would not be considered economically viable for that very same plantation manager to invest in infrastructure for health in the long term.

This apparent contradiction in the story of health care in the plantations was replicated in the nature of the plantation system itself. The nature of the plantation system appeared contradictory because its objectives were those of capitalist production on a mass scale but the production relations in the colonial plantation society were framed in terms that enabled management to be erratic and self-willed. This was no accident. It comprised the very core of the plantation structure, in which the economic and social relations were mediated through paternalistic notions by the tea plantation management. The district or the provincial governments rarely interfered, except in moments of the threatened overspill outside the tea gardens, either of diseases, or of labour 'unrest'.

Chapter 6

Locating the Vector: Malaria in the Darjeeling Foothills

6.1. Introduction: Fevers and Malaria: Emergence of Tropical Medicine

Most of the sicknesses in the Duars and the Terai were related to malaria and blackwater fever. In the nineteenth century, malaria in the Duars and Terai was held to be of miasmatic or climatic origin. Tea plantations were established in the Darjeeling foothills and the Duars a few decades before tropical medicine was institutionalised and malaria assigned the role of the paradigmatic disease of the tropics, 'the greatest scourge of mankind...eminently a tropical disease'.[1] It has been pointed out that the institutionalising of tropical medicine was effected in the context of professional interests and imperialist visions.[2]

Institutional bases for research in India were set up gradually in the first decades of the twentieth century, but various malarial theories jostled recognition and the sanitarian principles of miasmatic changes persisted for a long time. The tenacity of sanitarian theories and the crucial importance of the locality emphasised particularly by D.D. Cunningham and other IMS officials who controlled much of the policy-making within the Indian Medical Service in the late nineteenth century, have been explored in the context of cholera.[3] I shall explore to what extent the idea of locality was crucial to the management of malaria in the Darjeeling foothills. This will raise

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[1] Patrick Manson , 'On the necessity for Special Education in Tropical Medicine', in a speech delivered at St. George's Hospital at the opening of the Winter Session, October 1, 1897, PRO/CO/885/7/9, p.7.

[2] Michael Worboys, 'Germs, Malaria and the Invention of Mansonian Tropical Medicine', in David Arnold (ed), *Warm Climates, Western Medicine The Emergence of Tropical Medicine, 1500-1900*, Amsterdam-Atlanta, GA pp.181-207. Also see Douglas M Haynes, *Imperial Medicine: Patrick Manson and the Conquest of Tropical Disease* Philadelphia, 2001.

[3] Mark Harrison, 'A Question of Locality: The Identity of Cholera in British India, 1860-1890', in Arnold (ed.), *Warm Climates and Western Medicine*, pp. 133-159.

the question of the extent and impact of the emergent idea of 'species sanitation' on health policies in the Duars and Terai.[4]

The problem of malaria in the Darjeeling foothills, though with unique characteristics, was enmeshed in debates over malaria-control policies in India generally. All of Bengal in the nineteenth century suffered from malaria. In many other parts of India, malaria was either constantly prevalent or erupted periodically in epidemic form. It accounted for one death in five in India and between the 1890s and 1921 it probably took twenty million lives.[5] Though its effects were not immediately evident (as in the case of cholera or plague, for instance), malaria depopulated entire districts, and state public health policies had to engage with its effects.[6]

In the early twentieth century, scientific medical research in India focussed with urgency on cholera and plague, but particularly after 1911 when the Indian Research Fund Association (IRFA) was formed, it invested in malaria research as well.[7] The story of malaria in India in the twentieth century is one of incremental increase in specialised knowledge about malaria and the conditions of its existence, the identification of various anophelines, formation of malaria 'brigades', the mapping of malaria in India through malaria surveys, and various 'controlled experiments' to eliminate infected anophelines. The question is, how did all of these factors influence the course of malaria and its management in the Darjeeling Terai and

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[4] The term 'species sanitation' was first used by Swellengrebel-Graf in 1919, and denotes the destruction of specific anopheline mosquitoes in a particular breeding environment. It involved prior investigation within the targeted area to determine the carriers unique to the locality. See D.J.Bradley, 'Watson, Swellengrengrebel and Species Sanitation: Environmental and Ecological Aspects', *Parassitologia* Volume 36, 1994, pp. 137-147.

[5] Ira Klein, 'Death in India: 1871-1921', *Journal of Asian Studies,* Vol.32, no.4, (Aug.1973),pp.639-659.

[6] Arabinda Samanta, *Malarial Fever in colonial Bengal*: *Social History of An Epidemic1820-1939,* Kolkata 2002, pp. 151-177.

[7] Mark Harrison, *Public Health in British India*: *Anglo-Indian Preventive Medicine 1859-1914*, Cambridge, 1994, pp.158-165.

Duars? In this chapter I will delineate some of the issues connected to malaria research, quinine prophylaxis, and anti-malarial sanitation in India in so far as they impinged on policy in the area of the tea plantations.

6.2. Tropical Medicine and the Darjeeling foothills

Harrison has argued that in the Indian subcontinent in the nineteenth century, malaria symoblised 'the wild, unconquerable', and hence "uncivilised" spaces of British India'; until the end of nineteenth century, that malaria prevention was not seriously on medical and official agenda.[8]

One of the reasons for the acceptance of malaria as a 'germ disease' in the 1890s, was 'the growing influence in metropolitan medical circles of pathologists and the 'new bacteriologists', and the fact that 'defenders of other opinions were remote geographically and marginal professionally'.[9] Ronald Ross's discovery of the mosquito –vector theory owed its acceptance to the efforts of Patrick Manson and the metropolitan connections of the London School of Tropical Medicine. In India, by 1902 medical research at an institutionalised level was being promoted by the government under the viceroyalty of Lord Curzon. The Plague Research Laboratory established in collaboration with WM Haffkine, in Bombay in 1896, the King Institute of Preventive Medicine at Madras (established 1904) and the Pasteur Institute at Kasauli, (established 1905) were all institutions supported by the Government of India. Though it initially began by producing anti–rabies and anti-typhoid vaccines, the Pasteur Institute at Kasauli was expected to 'become the nucleus for investigations in tropical diseases and clinical bacteriological work.'[10] Harrison has argued that one of the immediate reasons for the Government of

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[8] Mark Harrison, '"Hot Beds of Disease": malaria and civilization in nineteenth-century British India', *Parassitologia* Vol.40, 1988, pp.11-18.
[9] Worboys, 'Germs, Malaria and the Invention of Mansonian Tropical Medicine', p.193.
[10] Deepak Kumar, *Science and the Raj,* Delhi, 1995, p.168.

India's setting medical research agendas in this period was the plague epidemics of the previous decade and urgency in the recommendations of the Plague Commission.[11] However, although the control of malaria seldom provoked such drastic government interventions as the plague, so far as medical research was concerned malaria too had a place in official priority.

Tea chests from the Darjeeling foothills were familiar commodities in the auction houses of Mincing Lane in London at the turn of the nineteenth century.[12] It was at the turn of the century that the anopheline of the same region would become the subject of study by a scientific institution in London. In 1902, the Indian government invited the Malaria Committee of the Royal Society, which had been to Africa in 1901, to visit India. Its members included J .W. W. Stephens, a Fellow of the Royal Society who had (in 1898) briefly worked in the new bacteriological laboratory in Muktesar in India, S.R. Christophers, a graduate (M.B.Ch.B) of University College of Liverpool who had also served as a medical officer on a steamer of the Booth Line on the Amazon, and C. W. W. Daniels, who represented the Colonial Office.[13]

At least one member of the committee found the work in India congenial to his tastes, for Christophers wrote of the difference in their experiences from Africa to

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[11] Harrison, *Public Health in British India*, pp. 156-157. It has been pointed out that government focussed on small-pox vaccines because while diseases like malaria did not provide easy solutions, especially in areas like the Punjab, 'the prevention of smallpox at least appeared as the art of the possible'. See Sanjoy Bhattacharya, Mark Harrison, Michael Worboys, *Fractured States: Smallpox, Public Health and Vaccination Policy in British India 1800-1947*, Hyderabad, 2005 pp. 101-2.

[12] The first samples of tea from India was sent to Mincing Lane in 1838, these being tea made from indigenous wild Assam tea plants. See 'The Story of Indian Tea', in *The Tea and Coffee Trade Journal*, vol.56. No.3, March 1929, pp. 372-97.

[13] H.E. Shortt; P.C.C. Garnham, 'Samuel Rickards Christophers.27November 1873-19 February 1978', *Biographical Memoirs of Fellows of the Royal Society,* Vol. 25 (Nov., 1979), pp. 179-207. The quote is from p. 180. Also see Christophers, 'John William Watson Stephens, 1865-1946, *Obituary Notices of Fellows of Royal Society,* Vol.5, No 15, (Feb, 1947), pp524-540. J. W. W. Stephens later joined the Liverpool School of Tropical Medicine. See Helen J. Power, *Tropical Medicine In the Twentieth Century: A History of the Liverpool School of Tropical Medicine1898-1990*, London and New York, 1999, p. 22.

India: '...here were all the amenities of civilization, soda water, ice, comfortable travelling, an indescribable variety of sights and experiences'.[14] Their Indian tour included the city of Calcutta and the Duars, from where they moved to the Jeypore Hill tracts in southern Bihar and then to British Punjab. Christophers pointed out later that the visit 'quite apart from its direct scientific results, had a great effect upon the future course of malaria work in that country'.[15] It was the first of very many studies on malaria in India; the first three decades of the twentieth century saw a deluge of scientific investigations regarding malaria in various parts of India.[16]

The findings of the committee were novel, for they suggested that the degree of infection in a place need not be directly proportional to the number of anopheles in the locality. In Calcutta, for instance, they found anopheles *A.Rossii* in great numbers. In the two districts of Calcutta chosen for the study by the Committee for unsanitary conditions, there were mosquitoes in plenty .The members thought that 'not even in the worst fever districts of Africa have they met with anopheles in such abundance'[17] However, of the hundred and forty children inspected in those insalubrious localities, 'none of them had enlarged spleens, and not one of the 324 anophelines were infected.'[18]. On the other hand, S.P. James, the IMS officer deputed to the Commission, reported, 'as we proceeded from Calcutta through the

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[14] Christophers, 'John William Watson Stephens, 1865-1946 ', *Obituary Notices of Fellows of Royal Society,* Vol.5, No 15, (Feb, 1947), pp. 524-540, p. 527.The reader is reminded of Hawkins, Arthur Story's mentor in Duars, who in 1892-4 in addition to having a large practice in the tea gardens also owned an ice factory. See chapter 3.

[15] Ibid, p. 528.

[16] W.F. Bynum has pointed out that in 1929 when J .A. Sinton compiled a bibliography of malaria in India, it filled 200 pages and included in addition to 2,200 items from scientific and medical journals, government publications and reports as well. W.F. Bynum,'Reasons for contentment; malaria in India, 1900-1920,'*Parassitologia* 40: 19-27, 1998, p. 21.

[17] S. P. James, 'Malaria In India', *Scientific Memoirs by Officers of the Medical and Sanitary Department of the Govt Of India*, New Series, no. 2, Calcutta 1902, p. 76.

[18] Ibid. p. 77.

plains of Bengal to the district known as the Duars, ... the endemic indices gradually increased from nil in Calcutta to as high as seventy two per cent in the Duars'.[19] Thus, in the very first scientific report on malaria in the Duars the importance of its location was emphasised. The report underlined the fact that anophelines were of various kinds; on this trip, the Commission discovered two new species of anopheles in the Duars, which they had not encountered elsewhere in India. Malaria could no longer unambiguously be linked with either sanitary conditions or climatic fluctuations:

> From Calcutta to Duars the places were under practically identical conditions,- similar climatic influences, a uniform high temperature, an abundant rainfall, and much surface water. In Calcutta, however, we had abundant *A.Rossii* and no malaria, and in the Duars a relatively small number of *A.Fluviatilis* and a large amount of malaria.[20]

This could be linked with locality in terms of the breeding places of the various species of anopheline carriers.[21] The report, however, seemed to have remained within official and scientific circles. The planters, and even the doctors practising in the tea estates, do not appear to have engaged with the details of this first scientific research on malaria in the region. They had little access to the Royal Society documents; and the *Scientific Memoirs* series was not widely circulated among private practitioners of medicine in India. The planters petitioned later, in 1906, for

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[19] Ibid. Also see 'A Preliminary Report of the Royal Society Malaria Commission', *Indian Medical Gazette,* Vol. 37, March 1902, pp.101-2. In the Nagrakata area of Duars, the report found a state of 'endemicity' where 72 per cent of the children examined were found to have 'parasites in their blood'. The editorial remarked that Nagrakata was in the Terai, possibly because it was located in the foothills, although it was technically a part of Duars.

[20] Ibid.

[21] Ronald Ross who was in the neighbouring Terai while he was in the IMS, also noticed the great paucity of anophelines there. He wrote to Manson on 6 September 1898 from Kurseong, 'I don't believe fresh malaria was about at all at Naxalbari at this season'. Ronald Ross/L. J. Bruce- Chwatt, *The Great Malaria Problem and Its Solution: From the Memoirs of Ronald Ross With an introduction by L J Bruce-Chwatt*, London 1988, p. 194. See also, *Obituary Notices of Fellows of the Royal Society*, Vol.1, No.2 (Dec.1933), p. 111.

a detailed scientific study of the causation of blackwater fever and malaria in the region.[22] The Government acceded to their request, and the reports of that study were to throw a long shadow on both the discourse of malaria in India and locally on the management of disease in the tea plantations.

6.3. From Locality to Demography and Migration: Tropical Aggregation of Labour

The circumstances in which Christophers and Bentley compiled the report on malaria in the Duars have been highlighted in chapters 4 and 5. In this section I shall re-examine their report in the context of malarial research and the impact of the researches on the northern Bengal region. The report commented in detail on the particular circumstances of the living conditions of the workers in the tea plantations in the Duars, like the price of foodstuffs in the local *hats* (bazaars). The report also linked the malarious Duars to many other places in India, and indeed, in the world. By referring to researches on immunity conducted by Robert Koch, and by the Italian researcher Angelo Celli (in the Roman Campagna), they associated malaria with congregations of a labouring population in any region:

> We may say that in our researches on malaria we have for some time recognised the almost constant association of labour camps with severe malaria;... we believe that in it lies the explanation of the association of outbreaks of malaria with soil disturbance, opening up of new country and so on. It is not the soil disturbance, we believe, but the occurrence of labour camp conditions, or what we shall call for convenience of description THE TROPICAL AGGREGATION OF LABOUR, in association with these enterprises which has given them their evil reputation.[23]

The report referred to earlier works by Koch and Celli, and also by Stephens and Christophers, and connected it to their survey of the Duars tea gardens to posit that:

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[22] See chapter 4.
[23] Christophers and Bentley, *Malaria in the Duars,* p.2.

> A condition of continual immigration similar to that described by Koch is conspicuously present in the Duars, Assam and elsewhere in India, where the constant introduction of non-immune immigrants may be likened to the continual heaping of fresh fuel upon an already glowing fire...This factor, which when it acts temporarily, is capable of producing epidemic malaria and when long continued must give rise to an increased endemicity, we shall term for descriptive purposes the FACTOR OF NON-IMMUNE IMMIGRATION. [24]

They emphasised one more factor, linked to living conditions of labourers; that of 'physiological misery' caused by lack of adequate food leading to an increase in vulnerability to malaria. Here too they borrowed from Angelo Celli's study to link malaria, to famine in the Punjab.[25] As we have seen in the last chapter, it was this aspect of their thesis that was fiercely contested by the Duars Committee. Thus epidemiological explanation of malaria was linked, not with locality but with the influx of immigrant labour.[26]

The report concluded that the congregation of new comers in any industrial works-harbours, jute mills, tea gardens and railway lines was linked to the sustenance of malaria in endemic form. They next went on boldly to ascribe the prevalence of malaria throughout Bengal to the tropical aggregation of labour. They argued that the *centres* of endemic malaria were located in centres of 'industrial activity', which were constantly in a state of 'exalted malaria.' When sick workers moved out of the area they carried the malarial infection with them, mobile reservoirs of malaria.

> A glance at the map of Bengal will show that the districts that have been from time to time involved in epidemic malarial outbreaks bear a certain relationship to Calcutta; that they are practically identical with the great industrial areas to the north and west of the city and the expanding fan of railways that link the metropolis the great districts on the north east and the north west. Above all the recurring epidemics have often picked out in a

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[24] Ibid.pp.3-4.
[25] Ibid. p. 5.
[26] Ibid.p.40.

> curious manner, parts like the great coal districts of Burdwan, the mill districts of Hooghly, and other centres of industrial activity.[27]

The report made connections too with Leonard Rogers' study of *kala-azar* in Assam (1897) and stated that 'nothing is so unsettling as sickness' and therefore malaria, like *kala-azar* in Assam led to the labourers fleeing the tea gardens, and often spreading the disease much further than its place of origin;

> And again those who return to their homes or seek new seats of industry carry the infection of malaria wherever they go, and, if their numbers be at all considerable, and ... must often be so, serve to assist in the dissemination of malaria throughout remote districts.[28]

The thesis of the tropical aggregation of labour, or the human factor in malaria, gained in credence and attained legitimacy through its reiteration at national and international fora. In 1929 the League of Nations Malaria Committee carried out an inspection tour of India at the invitation of the Government of India. Christophers wrote the preface to their report. The factor of non-immune immigration at industrial sites was cited as a major cause of the spread of malarial fever in certain regions in India, particularly mines, plantations and harbours.[29] The theory became the fulcrum of a discourse on malaria that emerged with great clarity in later years.

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[27] Ibid.p.14.
[28] Ibid, p. 8.
[29] Christophers and Bentley presented the argument at the Indian Medical Congress in Bombay in 1909. See Samanta, *Malarial Fever in Colonial Bengal*, p.36.In his preface to the report of the League of Nations Malaria Commission to India, Christophers emphasised again this aspect of malaria in industrial locations. By 1927 the factor of the tropical aggregation of labour, or the human factor in malarial infection was an accepted scientific theory through reiteration in published work on malaria in India. For instance, see Patrick Hehir, *Malaria In India*, Oxford 1927, pp. 45-49. The League of Nations Malaria Committee endorsed the theory of non-immune immigration into industrial locations as a principal cause of malaria: '.From the results of ...investigations and from our own few observations made on the spot, we have come to the conclusion that the hyper endemic areas although sparsely inhabited are very often the areas where large plantations and large industrial undertakings are situated and which are therefore often the site of a considerable immigrant population coming from other districts. It is in these hilly districts covered with forest or jungle, with a sparse population that the immigrants are quickly mown down. Infant mortality in these districts is extremely high.' *Report of the Malaria Commission on its Study Tour in India Aug 23rd to Dec 28, 1929*, Geneva 1930, p. 31.

The crux of the theory of tropical aggregation of labour was that malaria was caused by the factor of large-scale non- immune immigration into any 'industrial' site.

Several years after their controversial study on Duars, Christophers, at that time the Director of the Malaria Bureau of India, wrote a report on the prevalence of malaria, blackwater fever, and anchylostomiasis in the Bengal Iron Company's mines at Singbhum.[30] Some of his recommendations were similar to those made in the Duars some twenty years previously, such as the screening of existing European bungalows, their location outside the sites of infection and the encouragement of the use of quinine.[31] However by this time the concept of the tropical aggregation of labour was firmly entrenched and further refined by Christophers. The aggregation of labour contributed to great malarial infection among new immigrant workers in an industrial site. The logic, if followed through, was that settled workers acquired an immunity to malaria that was not racially inherited but acquired through repeated infections suffered by the newly immigrant labourers and by newborn children and infants. Therefore, even if the spleen rate of a given area showed a high endemicity of malaria, the adult population would not be unduly affected because they would have gone through the process of acquiring immunity through repeated malarial infections. The logic if extended would avert the need for expensive sanitary measures. It would also reduce the expenditure on quinine by discouraging its use as prophylaxis, for acquired immunity would render the adult labouring population relatively safe from malaria.[32]

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[30] S.R. Christophers, *Enquiry On Malaria, Blackwater Fever and Anchylostomiasis in Singhbhum; Report no 1. Preliminary investigation into the conditions on the Bengal Iron Company's Mines at Manharpur, January 1923,*Patna 1923.
[31] Ibid. p. 29.
[32] Ibid.

6.4. Acquired Immunity, Race and Acclimatization

There was one other aspect to the issue of acquired immunity to malarial fever; that was through racial acclimatization. The question asked by medical experts was, were some races more liable to acquire immunity through repeated attacks of malaria than others?

When Christophers and Bentley wrote their report on malaria in the Duars they referred to the issue and specifically denied that the racial factor was of importance:

> Race appears to play but little part in influencing the prevalence of infection, though some races appear to be more profoundly affected by the disease than others. In several instances where we have examined the children of hill and plains people living on the same garden under similar conditions, but with the two races widely separated, we have found the rate of infection and of enlarged spleen to be practically the same[33]

However, Christophers referred to certain 'susceptible races' when he wrote his report on Singhbhum in 1923. The European staff and the skilled labour (mostly Hindus and Muslims) were categorised as the 'susceptible' races. He stated on the other hand the unskilled mine workers were 'indigenous, largely aboriginal' and as adults were 'fairly immune to malaria.' This immunity, he noted, came after a period of 'acute infestation' of malaria for a period of around two years- a process he compared to the 'salting of animals in trypanosomiasis'.[34]

In 1926, when the Public Health department of the government of Bengal reported its findings on anti-malarial measures in a tea estate in Duars, it echoed these sentiments. In an area of malarial hyper-endemicity like the Duars, it sketched out

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[33]Christophers and Bentley, *Malaria in the Duars*, p. 23.

[34] Christophers, *Enquiry on Malaria, Blackwater Fever and Anchylostomiasis in Singhbhum,* p.30. Also see Christophers, 'The Mechanism of Immunity Against Malaria in Communities Living Under Hyper-Endemic Conditions', *Indian Journal of Medical Research,* Vol. 12, No 2, Oct.1924, pp. 273-294. This view of acquired immunity in hyper-endemic regions confirmed similar findings by Schaffer in Sumatra.

the possibilities of infection very similar to the conclusions reached in the mining areas of Bihar:

> If a mixed population of men, women and children who were susceptible to malaria were introduced into such an area, there would in the first instance be an explosive outbreak of malaria amongst the new comers... In a vigorous race, there would be a "rally" in the individual against the parasite and gradually a tolerance or relative immunity would be developed, ...A time would come when the only persons not possessing a relative immunity would be newly born children. These would all be intensely affected and would suffer from continuous fever until they either died or gradually acquired a relative tolerance.[35]

Such a conception of immunity from malarial infection that posited distinctions between 'vigorous' races and others not so vigorous led almost inevitably to the conclusion that certain communities were more likely to acquire immunity than others; 'Coolies from the Jeypur Hill Tracts will, therefore, be less likely to suffer on arrival than Chota Nagpuris... there are certainly racial differences. Santals, for instance, seem to get immune more quickly than Nepalese, who would appear to possess small powers of immunity production.'[36]

This concept of immunity to malaria through repeated attacks fever was a little different from the older, nineteenth century ideas of racial immunity to fever. In the mid-nineteenth century Rennie, in his account of the Bhutan campaign of 1865, mentioned that the Meches, the pre-colonial inhabitants of the region, were peculiarly immune to fevers, '[The Meches] are a singular tribe, enjoying excellent health where other races, dark and fair, sicken and die- while again they contract

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[35] Government of Bengal, Public Health Department, *Report of the Malaria Survey of the Jalpaiguri Duars* Calcutta 1926, p. vii.
[36] Ibid.

malignant fevers when removed from their own locality into districts considered by us comparatively salubrious.'[37]

Rennie's conceived of racial immunity to fevers as an immunity that was both racial and locational. It linked racial immunity to acclimatization in a specific locality, outside of which the entire race would perish. This notion was current among both medical practitioners and colonial ethnologists. In 1872 E .T. Dalton had thus remarked about the Meches in his *Descriptive Ethnology of Bengal*:

> Their constitutions have become so much accustomed to the malarious influences of the Terai, that apparently they cannot live without the poisonous gases that they imbibe there, and in the purer atmosphere of the plains, or in breathing the more invigorating air of the higher ranges, they pine and die.[38]

This particular link between racial immunity, location and fever had become irrelevant in the twentieth century, for by the time Christophers and Bentley wrote their report on malaria in the Duars, the Meches had migrated already towards the eastern parts of the district, where tea plantations had not yet been claimed from the forest. The Meches were gradually pushed out of the district towards Goalpara in Assam throughout the colonial period.[39]

In the twentieth century, the issue of immunity in India remained important, and was linked to both racial and locational categories. A textbook on tropical health

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[37] David Fields Rennie, *Bhootan and the story of the Dooar War; Including a three months residence in the Himalayas etc.* London 1866, pp. 347-8.

[38] See A. Mitra, *The Tribes and Castes of West Bengal*, Alipore, 1953, p.224. Dalton's *Descriptive Ethnology* was compiled in 1872, under the aegis of the Asiatic Society of Bengal. His ethnography was later used by the decennial census survey that was initiated in 1871-72. See Sangeeta Dasgupta, 'Description' to 'Definition': Mapping the Oraons and the 'tribe' in Chotanagpur', unpublished paper.

[39] Ray, *Transformations on the Bengal Frontier*, p. 79. The Meches' demographic insignificance and unwillingness to work in the newly established tea plantations resulted in their marginalisation. However, the theory that they were immune to malaria persisted in twentieth century ethnographic accounts of the Meches. For instance, see Charu Chandra Sanyal, *The Meches and the Totos: Two Sub- Himalayan Tribes of North Bengal*, Darjeeling, 1973, p. 7.

written by a Bengali physician, B. N. Ghosh, which was first published in 1912 and went through seven editions, understood immunity to malaria in racial terms:

> The question whether immunity is possible may be answered in the words of Manson as "yes/no"...Some races and certain individuals are, however, less susceptible of malarial influence than others, but very few are absolutely immune. The Chinese, the Malays and some other dark skinned races also appear to enjoy a comparative immunity- an immunity considerably less pronounced, however, than that enjoyed by the African and West Indian negro.[40]

The Malay and Chinese labourers, like those in the West Indies and Africa, were recruited as labourers in the various plantations of the Malay archipelago and the Carribbean islands. Such a notion of acquired immunity contributed to the discourse of body typologies of productive labourers and to a certain extent informed recruitment policies. In the seventh edition of his text book Ghosh echoed the exact words used by Christophers when he referred to the partial immunisation of adults in a hyper-endemic area: 'There is thus a definite acquired immunity to malaria, comparable to the "salting" of animals in trypanosomiasis.'[41]

When Patrick Hehir wrote *Malaria In India* in 1927, though he emphasised that, 'Against malarial infection there is no absolute immunity, hereditary or acquired.'- he also reiterated that ' ...dark-skinned races, living in malarious regions, possess a relative immunity to malarial infection. This is explicable as an acquired immunity, ...'[42] He further quoted Koch to argue that the 'acquired immunity' occurred relatively rapidly in cases where quinine was not used. Hehir presented complex arguments on the factors that led to acquired immunity in certain groups of people,

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[40] B.N. Ghosh, *A Treatise on Hygiene and Public Health, with Special Reference to the Tropics*, Calcutta, 1927, (sixth edition), p. 482.
[41] B.N. Ghosh , *A Treatise on Hygiene and Public Health, with Special Reference to the Tropics*, Calcutta, 1930, seventh edition), p. 511.
[42] Hehir, *Malaria in India*, p. 39.

particularly in adults in hyper-endemic areas.[43] This emphasis on acquired immunity from malaria also reinforced arguments against the adoption of more expensive quinine prophylaxis as well as anti-malarial sanitation in the plantations. As we shall see later in this chapter, the focus on immunity studies encouraged some planters to promote research to hasten 'acquired immunity' among the labourers.

6.5. Prevention versus Prophylaxis: Mian Mir and the debate in India

An early experiment at anti-malarial sanitation was conducted between 1902 and 1909 at Mian Mir, a military cantonment near Lahore in the Punjab. The study was conducted by the Malaria Committee of the Royal Society, facilitated by the Government of India and supervised by Stephens and Christophers. The experiment, according to W. F. Bynum, 'attracted a passion rivalled in the history of malariology only by the decades long bickering between Ross and Grassi.'[44] The reports, in brief, concluded that anopheline control was not feasible in the area. The conclusions drawn by the Indian medical establishment at Mian Mir were responsible for the eclipse of anti-malarial sanitation in India through government initiatives for some time. It led to the preference towards the large-scale use of quinine as prophylaxis.

Sheldon Watts has pointed out that Christophers, as the chief malariologist of India till the mid-thirties, in his official capacity as Director of the King Institute and later at the Central Research Institute, kept the focus of malarial interest in India away from the canals and irrigated rice fields and instead concentrated on a quinine

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[43] Ibid, pp. 38-45.

[44] For a narrative of the controlled experiments at Mian Mir and the controversy between Ronald Ross and S .R. Christophers, S. P. James and indeed almost all of the Indian medical establishment, see W.F. Bynum, 'An Experiment That Failed: Malaria Control at Mian Mir', *Parassitologia* Vol. 36,1994, pp. 107-121.

policy.[45] Watt argued that this was also motivated towards preserving the irrigation policy of the government in British India, particularly the canals in the Punjab, from which private investors in England earned rich dividends and the government of India reaped the benefits of substantial agricultural revenue.

Watt's thesis requires certain qualifications. The irrigation canals of the Punjab were important, but not merely as a source for generating revenue for the gentlemen capitalists in England. The canals were the basis of the agrarian economy of British Punjab, which was commercialised and expanded greatly under British rule. Two fifths of the army in colonial India was recruited from the rural peasantry of Punjab; the loyalty of this army, so crucial after 1857, was tied to the prosperity of the agrarian economy of British Punjab.[46] And as Ira Klein has pointed out, Watts ignored the various studies especially by Bentley in Bengal that drew links between ecological degradation and the incidence of malarial fever in colonial Bengal.[47]

At the same time, there was more to the evolving discourse of malaria and practices of anti- malarial sanitation in India than a simple dichotomy between the 'sanitarian' approach and the 'scientific one' of malarial prophylaxis through the use of quinine. Most malariologists in India, led by Christophers at the Malaria Bureau of India, emphasised quinisation. But Ross, who battled the IMS establishment to focus more on anti-malarial sanitation, argued that,

> We do not yet know all the dangerous species of mosquito, nor do we even possess an exhaustive knowledge of the haunts and habits of any one variety...Before practical results can be reasonably looked for, however,

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[45] Sheldon Watts, 'British Development Policies and Malaria in India 1897-c.1929', *Past and Present,* No. 165, (Nov., 1999), pp.141-181.
[46] Rajit K Mazumdar, *The Indian Army and the Making of Punjab,* Delhi 2003.
[47] Ira Klein, 'Development and Death: Reinterpreting malaria, economics and ecology in British India', *Indian Economic and Social History Review*, No.38, 2001, pp. 147-179.

> we must find precisely (a) what species of Indian mosquito do and do not carry malaria? (b) What are the habits of dangerous varieties?[48]

Therefore there was no question of indiscriminate implementation of anti-malarial sanitation even by its strongest advocate. It entailed from the outset, the problem of detailed research into the habits and breeding places of anopheline mosquitoes. It is here that the question of locality became important in the research for specific anopheles and their habitations. In the next three decades, malarial research all over the world as well as in India would demonstrate the enormous variety of types as well as habits and breeding of anopheles, which were found to differ from one terrain to another, thereby making the question of locality a crucial one. By 1913, still convinced that the destruction of parasite carrying anopheles was possible, Ross presented the successes of the campaigns towards total extermination of malaria in the Panama Canal, in Ismailia in Egypt, (near the Suez Canal), and in the Malay Straits. Despite the rhetoric of European settlements in the tropics, and the 'gift of half the world' by tropical medical sciences, he did not contemplate large- scale prevention in rural areas of either Africa or in India.[49] Many years later Malcolm Watson would point out that Ross had insisted that he was 'much misrepresented' and that in he had 'never thought and certainly never stated that it would " be possible to exterminate mosquitoes throughout Africa, for instance. I have always referred especially to large *towns*".'[50] Thus it is essential not to posit Ross's anti-malarial sanitation in direct opposition to the quinisation policy of Christophers and the Indian medical establishment.

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[48] See Malcolm Watson, 'Malaria and Mosquitoes: Forty Years On' *Journal of the Royal Society of Arts*, 87: 4505(1939: March 24), p. 485.
[49] Ronald Ross, 'Medical Science and the Tropics', *Bulletin of the American Geographical Society,* Vol.45, No 6. (1913), pp. 435-438.
[50] See Watson, 'Malaria and Mosquitoes: Forty Years On', p. 483.

In India, Ross's advocacy of anti- malarial sanitation had little impact. The experiments at Mian Mir cantonment by the Government of India were said to hinder the possibilities of sanitation in the entire country in the first two decades of the twentieth century. Significantly, as Bynum has pointed out, the Mian Mir experiment involved not only destruction of anophelines through various means but also attempted control through quinisation of the troops at the cantonment. Segregation of the European troops through the removal of native habitations, which were close to the European barracks, 'first, a syce line, and then a whole bazaar' was also undertaken.[51] Christophers and some of his colleagues, such as S.P. James and J.A. Sinton, were undoubtedly the most vocal and outspoken partisans of the employment of quinine prophylaxis as the best mode to control malaria. But the quinisation approach was combined with sporadic implementation of anti-malarial sanitation as well as segregation-, which were all attempted, in various degrees, in the tea plantations.

6.6. Quinine Prophylaxis in the Plantations

When the planters called for a special investigation into the causes of malaria and particularly the blackwater fever in the Duars, it was with a view to harnessing medical expertise and specialised knowledge to protect them against malaria and blackwater fever. Though the planters contested most of its conclusions and the Duars Committee claimed it was inaccurate, exaggerated and ill-informed, many of the practical suggestions offered by the Christophers-Bentley report were accepted by the Duars Committee and by the planters. One was to situate managerial

[51] Bynum, 'An Experiment That Failed', p. 112.

bungalows away from the coolie lines. Others were the use of mosquito nets and the use of quinine as prophylaxis.[52]

The planters in fact feared blackwater fever more than malaria. As we shall see below, the use of quinine prophylaxis became an important issue in Duars and Terai because in medical explanations, blackwater fever was thought to result from the overuse of quinine. Europeans were more liable to suffer from blackwater fever than the Indian labourers, which contributed to the idea that it was a product of quinisation. However, Bentley and Christophers concluded that blackwater fever was probably due to repeated attacks of malaria.[53] Harrison argues that the bias towards quinisation prompted the idea of 'malarial cachexia' so that it was understood as a disease of malarial fever itself but not of the use of quinine.[54] In medical circles, the argument was far from being concluded with the Christopher-Bentley report. The debate continued in the pages of the *Indian Medical Gazette* throughout the 1920s.[55] In the 1930s a nurse belonging to the LMINA, serving at the

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[52] Segregation of Europeans from native quarters to prevent malarial infection was recommended by the first Royal Society Malaria Committee. Letter from Royal Society to Colonial Office, 24 April 1903, Enclosure No. 2, Government of Bengal Proceedings, Municipal/Medical, December 1903, No.26-28, IOR/P/6565 (APAC), pp.200-201. It became a regular practice in West Africa. See John W.Cell, 'Anglo-Indian Medical Theory and the Origins of Segregation in West Africa', *The American Historical Review,* Vol.91, No 2, (April 1986), pp. 307-335.

[53] S.R. Christophers, and C.A. Bentley, *Scientific Memoirs Officers of the Medical and Sanitary Departments of the GOI, Being the first report to the advisory committee appointed by the GOI to conduct an enquiry regarding black-water and other fevers prevalent in the Duars,* Calcutta, 1909.(Second Edition), p. 4.

[54] Harrison, *Public Health in British India*, pp. 177-9.

[55] For instance, see Lawrence G. Fink, 'Blackwater Fever in Burma', *Indian Medical Gazette*, Nov.1912, pp.137-141.See in the same volume, 'Address of the Director General of the Indian Medical Service at the general malarial committee meeting, Madras', p.496. Also relevant is Charles E.P.Forsyth and Ernest T. Jameson, 'Blackwater fever: Notes on three consecutive cases', *Indian Medical Gazette Vol.50, Nov.1915,* pp.416-417. In 1929 the issue was still in question. See ' The Report of the Malaria Commission of the League of Nations on the their Indian Tour, 1929', *Indian Medical Gazette*, Feb.1931, pp. 91-93.

Jalpaiguri branch thought that blackwater fever was the result of excessive consumption of quinine compounded with whiskey.[56]

Quinine was cultivated in the government cinchona plantations. The use of quinine as prophylaxis may have been established as the favoured method in official medical discourse in India, but the consensus was not unanimous. It was probably the rise in the cost of quinine in this period that prompted medical authorities in the army and the jails to conduct tests to determine the effectiveness of quinine as prophylaxis.[57] For instance, in 1918 Lt. Col. Anderson published in the *Indian Medical Gazette* the results of his experiments at the Port Blair female jail, in 1901-11, and again at Dacca jail (1912-13).[58] He concluded that there was no direct link between the administration of quinine as a prophylactic and occurrences of malaria. In the same volume, however, Sir Leonard Rogers, drawing from experiments made with malarial prophylaxis by Koch, and by researchers in Uganda, Algeria, Hong Kong, and America, outlined the conditions under which quinine prophylaxis would be effective The first condition he laid down was that in areas which had a high endemicity of malaria quinine prophylaxis would not be particularly effective, especially because the doses given as prophylactic were hopelessly inadequate.[59] He recommended instead the full curative dose for three weeks for everyone in the tea and rubber plantations.[60]

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[56] Interview with Dorothy Thomas, who served as a nurse with the LMINA in Jalpaiguri between 1932-34. Mss Eur R136, (APAC).

[57] Letter from the Sanitary Commissioner, Government of India, to all Inspectors General of Prisons, dated 9 November 1917, Education/Sanitation, B Proceedings No.13, (NAI, New Delhi), p.3. The Inspector-General of prisons in Punjab recommended such an experiment as early as 1907. See David Arnold, *Colonizing the Body: state medicine and epidemic disease in nineteenth-century India*, Berkeley, 1993, p.109.

58 A. R. S. Anderson, 'Quinine in Malarial Prophylaxis', *Indian Medical Gazette*, 1918, p. 45-48

59 Sir Leonard Rogers, 'Quinine Prophylaxis in Malaria' *Indian Medical Gazette*, 1918, pp. 249-252.

60 Ibid.

There are instances of Civil Surgeons of Jalpaiguri who were members of the IMS, who did not accept the efficacy of quinine as prophylaxis. One insisted on 'the relation' between the death rate from fever and the amount of quinine used as prophylaxis that, 'The results from nineteen estates in which this was worked out quite fail to show any constant relation.'[61]

In 1916 the chief cause of death in the plantations was still from 'fevers', with the resident doctor babus being unable to distinguish between various other causes of death and malarial fever.[62] In the tea gardens of Duars fever was still by far the chief cause of mortality. The Civil Surgeon who inspected the medical practices of the tea gardens commented under the Jalpaiguri Labour Act commented:

> When we consider the fact that the death rate from fever on all tea estates in the Duars as a whole is only 7.79 per mille, these figures appear to be very striking...But such is not the case on each and every tea garden, for this relation between the death rate from fever and the amount of quinine used during the year is not constant[63]

In 1918-1919 the Civil Surgeon Major R .E. Lloyd mentioned,

> I have not been able to find any regular diminution either in the case rate of malaria or the death rate from "fever" in those gardens which distribute the most quinine,(over 150 grains per head) nor any increment in those rates on gardens which distribute the smallest (i.e. under 30 grains). The benefit arising from the administration of quinine is therefore not obvious. This is contrary to the opinion expressed in last year's report, but that report seems to have been founded on selected cases[64]

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61 *D.P.A.A.R.1915,* Calcutta 1916, p. 75.
[62] *D.P.A.A.R. 1916*, Calcutta 1917, p. 120.
[63] Ibid. p.124.
[64] *A.R.W.J.L.A.1918- 19,* Calcutta, 1919, (APAC), p.4.

The next year the Civil Surgeon was one Lt. Col. Gilchrist, who shared the scepticism of a too-direct connection between the incidence of malaria and the distribution of quinine for prophylactic purposes,

> Leaving aside 1918-19 when the figures under the heading "fevers" were vitiated by influenza, there is no appreciable difference in the death rates in the two yrs 19-20 and 1917-18 in spite of the large amount of quinine used in 1917-18. This result is doubtless due to the fact that less quinine being available in 1919-20, quinine was reserved for those who required it most and there was less waste.[65]

That year itself Charles Forsyth, a doctor practising in tea estates in Assam published the result of his findings in an unnamed tea estate.[66] He had experimented with the efficacy of quinine prophylaxis in a 'coolie population' and stated that quinine used as prophylaxis was both useless and wastefully expensive, given the cost of the drugs. He argued that the only means by which quinine prophylaxis could be effective would be to multiply the current dose by four times. '...instead of ten grains given to half the labour force, twenty grains given to the entire adult population...the cost of the drug must render the procedure prohibitive...'[67] Despite the costs and the problems that he foresaw in such a programme, Forsyth proposed anti-mosquito works rather than quinine prophylaxis in Assam.

The next year in the Duars too, the Civil Surgeon, Major S.C. Pal, commented that 'The incidence of malarial fever in different gardens does not appear to bear any relation to the quantity of quinine issued'.[68] Lt. Col. H .E. Smith, who was the Civil Surgeon and Inspector the following year, however, noted without giving an opinion

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[65] *A.R.W.J.L.A. 1919-20,* Calcutta 1920, (APAC), p. 4.
[66] Charles E.P. Forsyth, 'Quinine Prophylaxis and the Treatment of Malaria in A Coolie Population: A Contribution from Assam', *Indian Medical Gazette*, Volume 55, 1920, pp. 12-14.
[67] Ibid.p.14.
[68] *A.R.W.J.L.A.1920-2,* Publication details missing. (APAC), p. 5.

on the subject of prophylaxis, that '...The total quantity of quinine issued during the year under report was 2,073 lbs as against 1,693 lbs in 1920-21...The total number of deaths from fever during the year under report is 1,386 or 7.52 per mille as against 1,643 or 8.63 in 1920-21'.[69]

The reason cited by the respective Civil Surgeons for the drop in total volume of quinine distributed in the years between 1918 and 1921-22 was the raised price in the relevant years. It is significant that it was precisely while quinine prices were high and the tea industry in a temporary slump, that the local Civil Surgeons thought it necessary to question and investigate the direct links between quinine prophylaxis and malaria. When situation improved the connections between quinine prophylaxis and malaria were not investigated; the Civil Surgeon merely recording satisfaction at the recovery of the industry from the slump. But he also noted, without making any comment, that it was 'a bad year for fever', the total mortality being 1,535, an increase of 149 over the previous year.[70] Forsyth had referred to the rise in the price of quinine when he abandoned prophylactic treatment altogether although he claimed that the measure was not due to financial stringency but on his own initiative.[71]

The regular use of quinine prophylaxis by the planters was an established convention prior to Ross's discovery. It remained the mainstay of support against fevers throughout the subsequent period of investigations in the Duars as well as the Terai and Darjeeling. A doctor who practised in Darjeeling wrote in 1888 that, 'A hill climate seems invariably to bring out an attack of malarious fever' and 'in malarious fever, our great stand-by is quinine, and full doses should be administered

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[69] *A.R.W.J.L.A.1921-22* Calcutta 1922, (APAC), p. 4.
[70] *A.R.W.J.L.A. 1922-23*, Calcutta, 1923, APAC, p. 3.
[71] Forsyth, 'Quinine Prophylaxis and the Treatment of Malaria in a Coolie Population'.

(15 grains)'.[72] Arthur Story, who practised in the Duars (see chapter 3) between 1892-4 dosed himself with quinine regularly and especially heavily when he had a fever; 'I have taken forty grams of quinine since yesterday to stop the fever, if you were to tell some of the old doctors at home this it would make their hair stand on end.'[73] John Symington, a doctor who practised for several years in the Duars wrote of himself:

> Personally I took quinine daily during the five years of my sojourn in that part of India, swallowing a five-grain sugar-coated tablet every morning at breakfast... and some days, when unavoidably exposed to severe attacks of mosquitoes, the dose was doubled or trebled. I must have swallowed, in those twelve years, 21,900 grains of quinine, ... However, I never lost a day in bed on account of malaria.[74]

W .K. L. Webb, the son of a tea planter, born in Darjeeling in July 1921, and who grew up in the Binnaguri and the Nangdala tea estates in the Duars during the 1920s, remembered the regular use of quinine by himself and his family, and its unpleasant side- effects. He referred also to wire netting as protection for the managerial bungalows.[75] W.M. Fraser, a tea planter who worked for many years in the Terai wrote to Ronald Ross asking for information about blackwater fever, after he had had 'five attacks of black water fever, two of them acute'.[76] Ross informed him that blackwater fever was 'usually precipitated in a case of neglected malaria by a sudden dose of quinine'.[77]

What of the labourers? Some amount of quinine, especially in the form of cinchona febrifuge, was supplied to the plantations in Duars and the Darjeeling hill areas at

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[72] S.O. Bishop, *Medical Hints for the Hills*, Darjeeling, 1888, pp. 64-66.
[73] Letter of Arthur Story to his mother from Looksan Tea Estate, June 14 1893, Mss Photo Eur 275, (APAC), p. 353 of typescript.
[74] John Symington, *In a Bengal Jungle, Stories of life on the tea gardens of northern India*, Chapel Hill 1935, pp. 12-13.
[75] .Interview with Father Webb in 1989, Mss Eur R 187, (APAC).
[76] W. M. Fraser, *The Recollections of a Tea Planter*, London 1935, p. 210.
[77] Ibid.

cost price by the provincial government through the local dispensaries. The supply to the plantations was on demand and probably assured. In 1878 in Kurseong, the subscribers to the Kurseong dispensary who were mostly planters threatened to stop their subscription when the supply of quinine was not to their satisfaction.[78]

Both the Christophers and Bentley report as well as the Duars Committee report stressed the need for compulsory quinisation for the workers. While Christophers and Bentley regarded it as a dire necessity, the Duars Committee cited examples to emphasise the cultural difficulties of persuading the workers to take quinine in prophylactic doses because of its unpleasant side-effects. There were also difficulties in distributing the quinine to the entire population of the tea estates;

> Of the gardens that issue quinine, some issue it daily, some twice weekly, and some on alternate days. A few gardens issue an extra dose on days when coolies have been exposed to heavy rain. The doses are usually administered to the women at the time of leaf weighing, and to men when they are out at work. The Doctor Babu is supposed to issue a prophylactic dose to all those in the lines who have not gone to work, including the children, but this is obviously an impossibility[79]

But the prescription of quinisation was also theoretically linked to the locality (as well as to demography). This link was provided by the reports of Capt. (later Major) A.B. Fry, who was posted to Bengal as a special malaria officer (Deputy sanitary Commissioner) in 1910.[80] He wrote two reports on the epidemiology of malaria in Bengal. In his second he compared the paucity of mosquitoes in the Terai region with their abundance in Howrah district. Terai was still a hyper-endemic district,

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[78] Government of Bengal Proceedings, Medical, August 1879, No.101-106, IOR/P/1153,(APAC), p. 186.

[79] *Report of the Duars Committee*, p. 36. They stated that, 'Of the 89 gardens that furnished replies to our enquiries ,...66 issue quinine after a definite method (7 of them employing petrolage also), 15 gardens have not adopted any method, and 8 have furnished replies from which it seems that quinine is given to "those who are willing to take it"'.

[80] Government of Bengal Proceedings, Municipal/Sanitation, No.15, Nov.1910, IOR/P/8420, (APAC), p. 13.

while Howrah hardly had any malaria. He attributed it to the human factor in the transmission of malaria. He next argued for quinisation of the population in the district, because it was they who were the reservoirs of infection. In so doing, he linked the problem of locality with that of demography.[81]

In the years after the Duars Committee report, many of the tea gardens, particularly the European ones, distributed free quinine once or twice weekly to their workers either at the daily work parade or through the *sardars* or the line *chaukidars*. Symington wrote that quinine was distributed to the labourers as a prophylactic occasionally;

> Quinine, usually the bisulphate, was used not only in the treatment of malarial attacks but as a prophylactic, and it was quite customary to administer the drug once or twice a week to the labor [sic.] force, or to each individual who was willing to take it, or to distribute the tablets in the lines once or twice a week.[82]

Within the tea estates, the quinine was usually given out during work parades. Therefore the dependent population within the tea estates were not included in the prophylactic distribution.[83] The *bastis,* villages flanking the tea estates, were excluded. The *bastis* were populated mostly by ex-tea garden workers, who produced rice for the consumption of the working population in the estates, and worked in the plantations in the peak season.

The administration of a quinine prophylaxis regime was complicated by the fact that there was no unanimity among the medical profession on the use of quinine as a prophylactic measure. The half -heartedness with which quinine prophylaxis was administered could itself have contributed to its lack of performance, which would

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[81] A. B. Fry, *Second Report on Malaria in Bengal*, Calcutta 1914, pp. 9, 37.
[82] Symington, *In a Bengal Jungle*, p. 12.
[83] *Report of the Duars Committee*, p. 36.

further contribute to scepticism regarding its efficacy. Particularly during FIRST WORLD WAR, several IMS officials posted in Macedonia questioned the efficacy of quinine as prophylaxis.[84]

In 1918, for instance, quinine as prophylaxis was not used regularly on most of the tea estates. Out of a total of one hundred and twenty six estates in the Duars, only some forty claimed to hand out quinine as prophylaxis once or twice a week. H. K. Doss, officiating Civil Surgeon, reported:

> There is no regular system of quinine distribution. In fifteen gardens it is said to be issued in 5- grain doses daily, in twenty six gardens twice a week in 5 grain doses, in ten gardens twice a week in rainy season in 5-grain doses. The other gardens do not issue quinine as prophylactic. No relation has been established between malaria incidence and quinine distribution. And recently some doubt has been cast on the prophylactic.[85]

However, he noted that in the tea gardens where quinine had been used as prophylaxis, there had been a change in the death rates, 'Gardens in which less than 30 grains of quinine per head had been distributed, the death rate was invariably more than 10, sometimes up to 19. Whereas gardens which had distributed more than 30 grains of quinine, did not exceed a death rate of 12.82 and was on occasion as low as 1.83.'[86]

Within the tea gardens, the use of quinine as prophylaxis was limited and circumscribed by issues of doubts about its efficacy, supply and price. The problems of quinisation in the tea estates reflected larger problems of such projects. The actual use of quinine in India in the inter-war years would have to increase by as

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[84] Mark Harrison, 'Medicine and the Culture of Command: the case of Malaria Control in the British Army during the two World Wars', *Medical History*, vol.40. No.4. 1996, pp. 437-52.
[85] *A.R.W.J.L.A. 1918, (*APAC), Calcutta 1918, p. 5.
[86] Ibid, p.3.

much as eight times to meet the requisite amount needed.[87] Moreover, much of the quinine produced in India was from the government –owned cinchona gardens and factories, and was not for free circulation but distributed to various government agencies for targeted distribution at strategic places- jails, cantonments, or by the local governments in times of epidemics or in districts of high endemicity. The distribution, however, left much to be desired.

The Dutch producers of quinine had the species *ledgeriana*, which produced the most effective and economical quinine from cinchona; and the Dutch cartel directed the world price of quinine. Therefore the use of quinine prophylaxis in India, even in the industrial sites which had better access to supplies of quinine than rural health units, remained an option that could not be ideally achieved.

Nor was full quinisation achieved in the tea gardens. The problems included as discussed above, the mode of distribution of quinine, which remained sporadic, the unwillingness of the labourers to consume quinine as a prophylactic measure, and of course the lack of adequate quantities of quinine. Moreover, running through the entire fabric was, as always, the issue of the areas outside of the plantations, the *bastis,* where quinisation was even less effectual and the local government could not supply adequate quantities of quinine. The options were not as such between 'species sanitation' and 'quinine prophylaxis'- in medical discourses and practice in India, both options were offered and often meant to function in conjunction with each other.

6.7. Anti-Malarial Sanitation and the Importance of Location

This section will continue the enquiry into the directions in which research in tropical medicine translated into the field and how it reiterated the significance of

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[87] O.P. Jaggi, *Medicine in India : Modern Period*, New Delhi, 2000, p. 163.

the 'local'. At the turn of the century medical research in India was conducted mostly by individual IMS officials, with very little institutional support from the government. Ross's own frustration in this regard when he was posted in India was typical of the Indian Medical Service's attitudes towards research in the field.[88] The establishment of the Royal Society's Malaria Committee, the two institutes of tropical medicine at Liverpool and at London contributed to the gathering of momentum of research on tropical medicine. In India, malaria research was initially conducted at the Central Research Institute and carried on by the Indian Research Fund Association, which was set up in 1911 and subsidised partly by the Government of India. It was funded in part through private subscriptions and published the *Indian Journal of Medical Research*, which was edited by the Sanitary Commissioner of India and the Director General of the Indian Medical Service.[89] It also appointed the Scientific Advisory Board, of which both Christophers and Ross were members. Besides the army cantonments, other sites were anti-malarial sanitation was attempted were the mines and plantations. (Mian Mir for example, was a cantonment).

The Imperial Conference on Malaria in Shimla, 1909, led to the formation of a Central Malaria Committee, to direct the course of anti- malaria operations in the different provinces through their supervision of the special provincial malaria committees.[90] At the 1909 conference in Shimla J.T.W.Leslie, the Sanitary Commissioner, pointed out that the Drainage Committee of Bengal had found that

> ...malaria,...was, on an average, much less prevalent in villages situated on the banks of live rivers and of dry land than in villages situated on the

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[88] Ronald Ross, *Memoirs: With A Full Account of The Great Malaria Problem And Its Solution*, London 1923, pp. 203,239-247,314-315.
[89] Harrison, *Public Health in British India*, p. 164.
[90] Harrison, *Public Health in British India*, p. 297.

> banks of dead rivers or *bheels*, while in villages surrounded by thick jungles the spleen rate...was more than twice as high as that ..in villages with little jungle around them- the effect of the thick jungle being to afford shade from sun and check the evaporation water from small hollows in which mosquitoes breed.[91]

Thus the success or the failure of any anti-mosquito campaign was understood by Leslie in terms of the local ecological conditions. In fact, the sanitarian approach to the prevention of malaria in Bengal emphasised a close knowledge of local ecology and disease patterns. In 1906, the Officiating Secretary in the Municipal Department of the Govt of Bengal had written to the Sanitary Commissioner of Bengal regarding drainage schemes in certain parts of Jessore, Midnapore and 24-Parganas districts, stressing both 'that accurate statistics should be obtained as to the prevalence of fever before and after the introduction of remedial measures' and that 'the neglect to collect similar information in the past has made it difficult to estimate the benefit derived from drainage works already completed'.[92] The assumption was that preventive work on malaria in any region could only be successful if it were both selective and circumscribed, for the official noted in the same letter, 'I am to ask that you will report in what towns it is desirable that action should be taken'.[93] The logic of location, so pervasive in British Indian medical discourse, outlasted the sanitarian epidemiological models and made a transition to become a significant factor in malaria research:

> Although our knowledge of the etiology of malaria and its treatment is fairly extensive, ... the scientific study of its epidemiology is only

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[91] Letter from Major Clemesha, Sanitary Commissioner, Bengal, to the Secretary, Municipal Dept. Government of Bengal Proceedings, Municipal/ Sanitation, No.1-2, March 1911. IOR/P/8686 (APAC), p. 3.

[92] Letter from H.J. McIntosh to the Sanitary Commissioner of Bengal, 3 May 1906, Government of Bengal A Proceedings, Municipal/Medical, 1906, (WBSA), p. 723.

[93] Ibid.

> beginning....we cannot devise the simplest and best preventive measures until the epidemiology is thoroughly understood...we have little exact knowledge of the distribution of malaria in the country, of the local conditions which favour it, and of the best means to render these causes inoperative. [94]

This was in accordance with the general views of the Government of India on sanitation programmes of any kind in India; the failures of which it stated, were due to the short sightedness of the local sanitary boards and the 'apathy, fatalism, and resentment of interference' of the 'uneducated masses'.[95] Medical officials believed that the successes of any sanitary reform for the civilian population in India depended on the knowledge of the local conditions: the people, as well as the land. Any move for sanitary reform,

> ... must recognise the diversity of local conditions in a country which includes numerous communities, castes and creeds and which exhibits almost every variety of climate, temperature, humidity and level of sub-soil water, from the Deltas of Bengal with their steamy atmosphere and dense lush vegetation to the burnt brown hills of the north-west frontier. [96]

The emphasis on locality and local knowledge that formed such a strong element in colonial administration in India informed medical research and practice at various levels. British Indian epidemiological theories emphasised the agency of local factors in the causation of disease. The debate on the aetiology of cholera in the late nineteenth century and D.D. Cunningham's rejection of Koch's theories and then his modified acceptance of the idea of the cholera germ, demonstrated the ecological aspect of the emphasis on the local. The tenacity of the Indian medical establishment's perception of India's disease terrain as both unique, and as a

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[94]Extract from proceedings of the Malaria Conference in Simla held 12-18 Oct 1919, Government of Bengal Proceedings, Municipal/ Sanitation, July 1910, No. 14- 15, IOR/ P/8419, (APAC), p. 30.
[95] Resolution No. 888-908, Government of India, Education/Sanitation, *Indian Journal of Medical Research*, Vol.1, no.4, Calcutta 1914, p. 590.
[96] Ibid. pp. 591-592.

territory that needed experience and familiarity to be medically understood, demonstrates the persistence of the rhetoric of the 'local.'[97]The insect-vector theory and the subsequent researches on malaria reinforced the idea of the crucial importance of local disease factors. This notion was compatible with the British administration in India, where local knowledge was both a condition and a validation of rule. The diversity in the anopheline species, and the variables in their breeding patterns revealed by research, highlighted the local to the degree that except for the assumption that anopheline mosquitoes caused malarial fever, very little else could be taken as given. In effect, this emphasised the point that no steps could be taken regarding the prevention of malaria in any area without exhaustive malarial surveys taken beforehand. Or else as likely as not, they would prove to be a waste of resources. The link between ecology and epidemics was made by medical men in Britain as well in the inter-war years. As Mendelsohn has pointed out, in the inter-war years medical scientists working on 'bacteriological epidemiology' in Germany and Britain borrowed increasingly from older traditions of epidemiology as well as new mathematical models to formulate what he described as 'holistic' and 'non-reductionist' explanations of epidemics. This culminated in the concept of 'equilibrium', which included ecological explanations and mathematical models to analyse the state of 'natural equilibrium' between host and pathogen.[98] But although IMS officials working on malaria in the inter-war years probably borrowed their epidemiological ideas from contemporary British medicine, or at least were aware of the trends, in India this trend long preceded that in Britain, particularly in the

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[97] Jeremy D Isaacs, 'D D Cunningham and the Aetiology of Cholera in British India, 1869-1897', *Medical History,* 1998, Vol.42, pp. 279-305. Also see Harrison, 'A Question of Locality'.
[98] J. Andrew Mendelsohn, 'From Eradication to Equilibrium: How Epidemics Became Complex after World War I', in Christopher Lawrence and George Weisz (ed), *Greater Than The Parts: Holism in Biomedicine 1920-1950*, New York and Oxford, 1998, pp. 303-331.

activities of the anti-contagionists in the nineteenth century. It also needs to be highlighted that the concept of 'holistic' medical approach differed between Britain and its colonies. While in Britain it was about combining complementary medical approaches, in the colony this holism was about also locating causation in the wider cultural practices of the disease-stricken, as well as economic factors relating to the inclusion of many parts of India into the network of the colonial economy.

Between 1906 and 1927 a 'malaria map' of India was drawn. Certain areas were surveyed before being taken up for anti-malaria works. The identification of these areas depended on various factors and was usually related to the urgency of the malaria problem in the region and the links between malaria control and economic productivity or political strategy. For instance, when the plans for a new capital at Delhi were being finalised, a malaria survey recommended locating the imperial capital at the southern site rather than the northern, which was found to be more susceptible to malaria.[99] When a new port was urgently needed on the east coast of India, the safe harbour of Vizag was found to be ideal except for the problem of malaria. In this project, the port authorities took advice from the experts at the Malaria Bureau and funded the necessary measures for anti malaria works.[100] The metropolitan cities of Bombay, Calcutta, and Madras all had certain anti-malarial surveys conducted. The malaria map and the surveys described the conditions of areas that were of particular importance either politically, or strategically, or from a commercial point of view.

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[99] The 'malaria map' funded mostly by the IRFA in urban, commercial and industrial sites in India, were highlighted by the League of Nations' Health Committee which visited India compiled a report on malaria in India at the invitation of the Government of India in 1926-7. *Report of the Malaria Commission*, p.17. This followed the wide-spread malaria surveys of the League's Health Committee after the FIRST WORLD WAR.

[100] Ibid, p. 19.

5.7. The Anopheline in the land of *jhoras:* the Experiment at Meenglas Tea Estate in the Duars

The recurrent epidemics in rural lower Bengal had devastated many areas. Some anti-malarial operations had been conducted in Dinajpur and Burdwan, but these were cited as problem areas. The anti-malarial operation at the Meenglas Tea Estate in the Duars was a little different from them, because the area of operation was a tea estate, under the control of its management. The Meenglas estate was owned by the managing agency of Duncan Brothers Limited. The funds for the Meenglas experiment were however paid entirely by the provincial government. The experiment lasted about eight years, and in many ways set the precedent for the course of anti-malarial work in the tea plantations for the next twenty- five years. The issues that emerged from Meenglas were thus of crucial importance.

The work at the Meenglas Tea Estate commenced in 1917.[101] The chief aim was to prevent the breeding of carrier anophelines in a terrain where the land was cut up by several seasonal *jhoras* (streams). In the special report on the experiment, it was noted that in the Duars, the seasonality of the streams depended on the terrain; for instance, the ones on the slopes remained dry for most of the year, while the ones closer to the plains were the *jhoras* 'where the streams flow practically continuously throughout the year.'[102] The study identified four such terrains within the Duars region. Some other ecological characteristics of the area were the proximity of jungles, rice fields, and three major fast flowing rivers. The aim of the experiment, apart from the usual examination of anophelines to determine the carriers, was to

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[101] The proposal was made as early as 1914, at a meeting of Provincial Malaria Committee by C.A. Bentley, possibly when his experience of malaria in the Duars was fresh in his mind. The other site simultaneously proposed was in Asansol. See Government of Bengal Proceedings, General / Sanitation, September 1914, No. 1-2, IOR/P/9375, (APAC). pp. 4-9. The initial funding was achieved through diverting funds from the IRFA for jungle-clearing in Murshidabad.

[102] *Report of the Malaria Survey of the Jalpaiguri Duars,* p. vi.

attempt subsoil drainage to control breeding. The experiment continued till 1928. Though the Meenglas experiment was not as controversial as Mian Mir had been, medical opinion about its success was still qualified.

The area under the experiment was three quarters of a mile, following the view of Malcolm Watson, whose successful policies in Malaya had shown that the flight of anophelines did not exceed half a mile. Meenglas was to test some of Watson's conclusions, and in 1926 Lt. Colonel Stewart who reported on the experiment remarked:

> At Meenglas, the Public Health Department determined to put to proof the thesis propounded by Sir Malcolm Watson that the abolition of anopheline mosquitoes in a circle of 20 chains radius would abolish malaria from the spot in the centre. This is probably true for the conditions under which the original work was done but under different conditions several other factors must modify these claims.[103]

At Meenglas, the local aspect of the problem of anophelines was further emphasised by the identification there of the three most dangerous carriers, *A.maculatus, A.listoni* and *A.culicifacies.* Stewart's report stated, they 'are bred in clear running streams typical especially of the upper strip of the Duars'.[104] However, the anophelines which inhabited the jungle near the Meenglas estate, chiefly the *A.aitkeni*, were found to be utterly harmless, unlike the *A. umbrosus* of the Malayan jungles which was proved to be a carrier.[105]

The Meenglas experiment verified a technical point; the underground drainage of streams would control the breeding of anophelines in that particular area. Where subsoil drainage could not be implemented it used the method of oiling stagnant pools with kerosene to prevent breeding. The experiment demonstrated that the

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[103] Ibid, p. viii.
[104] Ibid, p. ix.
[105] Ibid.

spleen index of the children and malarial fever could be reduced for a limited period within the controlled area. In 1920 the public health department reported that 'As compared with the previous year, the sickness-rate from malaria was lower in the treated area and higher in the untreated area.'[106] In 1925 the Director of Public Health for the Government of Bengal, C. A. Bentley, whose enthusiasm had initiated the scheme, wrote a highly optimistic report:

> This scheme...has produced remarkably good results. The spleen index in the whole garden has decreased by about 45 per cent since 1920.Thus in 1920 the spleen index was 86.2 per cent, whereas in 1923 it was only 47.5 per cent. The death rate from malaria has also come down very rapidly from 4.1 per mille per annum in 1921 to 1.8 in 1923. Sickness from malaria has also decreased, the fever index in 1923 being 34.4 per cent, against 43.7 per cent in 1922.[107]

In the same year, the annual public health department reported that death rates from fever in Jalpaiguri district was 24.3 per mille (per thousand) and had averaged 29.0 per mille in the years between 1913 and 1922. In the Darjeeling district (which included the malarious Terai) the figures were similar. According to the department of public health of Bengal, the average death rate of the Darjeeling district between 1913 and 22 was 28.8 per mille while the death rate was 24.5 per mille in 1922.

The discrepancy in death rate due to fevers (which included malarial fever) between the Meenglas controlled area and the rest of the Duars and Terai are so huge that they render the figures suspect. The figures for the districts were collected from the village watchmen. In Meenglas, on the other hand, special efforts were made by the public health department to record the statistics, so it is probable that the figures are more accurate for the Meenglas survey. Given the discrepancy and the consequent

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[106] *Annual Report for the Director of Public Health, Bengal, 1920*, Calcutta, 1922, p. 14.
[107] *Annual Report for the Director of Public Health, Bengal, 1923*, Calcutta, 1925, p. 79.

doubts about the validity of the figures it is not possible to make a comparison between the figures in the districts and those of the Meenglas tea estate. What is important for our analysis is that while the public health department of Bengal published all the above figures in the annual report of the Province, and Government policies and practices were defined on the basis of such figures, the reports made no direct comparisons between the fever death rates in the Jalpaiguri district and the corresponding fever and malaria rates at the Meenglas site. In Chapter 5, I argued that after the JLA of 1912, a system of collection of vital statistics was instituted within the tea plantations of the Duars, and that the management used the figures and compared them favourably to the corresponding figures in the district. This validated their claims that however inadequate the system of health care within the plantations might have been, the labour force was in better health than the rural population outside the plantations. With respect to the Meenglas experiment, the public health department did not address the issue within its annual reports. It did not compare the death rates or the sickness rates from malaria with those in the district outside the controlled area.

So far as the results of the experiment at Meenglas were concerned, the department recorded fluctuations. In 1924, they recorded 'an increase in the crude spleen index, the malaria death-rate, and malaria sickness rate with a decline in the birth rate, and no change in the total death rate'.[108] However, in 1925, the Director of Public Health's department reported that,

> The spleen index in 1925 for the whole garden was 51.8 against 53.2 in 1924 and 63.2 the average of the previous quinquennium. The death rate from malaria was 4.6 against 5.9 in 1924 and 5.1, the average of the last four years. The birth rate was 33.2 as against 47.4 in 1924 and 40.6 the

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[108] *Annual Report for the Director of Public Health, Bengal, 1925*, Calcutta 1926, p. 60.

> average for the last four years. Therefore the effect of the operations was satisfactory.[109]

In the next two years the spleen index at Meenglas was recorded at 56.5 in 1925, and 56.6 in 1926, the average of the previous quinquennium being 59.2. The death rate from malaria was 1.5 per mille in 1926, against 4.6 in 1925 and the average of the previous quinquennium was 5.09.[110] The death rate from all causes was 39.2 in 1926, against 33.2 in 1925 and 39.4 the average of the previous quinquennium. However, the report noted that the 'number of malaria deaths might be more than actually returned' as the number of deaths under 'other fevers' had risen.[111] This is in stark contrast to the report of the annual working of the Jalpaiguri Labour Act report, where the overall death rate in all the Duars plantations (not the Jalpaiguri district) was noted to be 22.91 that year. The huge discrepancy can be explained by the fact that the resident doctor babus on many plantations (whose figures were used by the Civil Surgeon to write the report) neglected to record all the deaths.[112]

One fact was immediately evident in the statistics that were published from the Meenglas experiment: the average overall death rate in the tea estate did not decline. According to the figures, the reductions in the deaths from malarial fever, the labourers continued to die from causes other than malarial fever such as diarrhoea and dysentery, chest complaints, and other afflictions. Therefore the public health department could not conclude that anti-malarial measures in themselves would reduce overall death rates of the workers drastically. However, admittedly, the

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[109] *Annual Report for the Director of Public Health, Bengal, 1925*, Calcutta 1927, pp. 43-44.
[110] *Annual Report for the Director of Public Health, Bengal 1926*.Calcutta 1928, p. 50.
[111] Ibid.
[112] See *DPA A.R. 1927,* Jalpaiguri 1928, p. 130. It is commented upon in the public health department's special report on Meenglas; 'It would appear that the recordings in many gardens is not efficient; in some gardens, it is very neglected;' *Report of the Malaria Survey of the Jalpaiguri Duars* , p.53. For an account of the inaccuracies in the records submitted by the doctor babus to the Civil Surgeon in accordance with the Jalpaiguri Labour Act, refer Chapter 5.

effects of malaria included sickness and debility more than a quick death. The reports stated that the spleen index first decreased and then stabilised, and remained 'almost static' from 1923 to 1927.[113] Therefore the public health department could make the claim that anti-malarial sanitation would after a few years, reduce malarial fever.

The experiment at Meenglas was aimed not just at reducing sickness from malarial fevers within that particular estate, but also to retest some of Watson's theses regarding subsoil drainage that had been proved expensive but useful when applied in the rubber estates of Malaya. In effect, Meenglas was to demonstrate the feasibility of subsoil drainage operations for larvae control for the tea estates all over the Terai and the Duars. It is thus important to study the reports to see what conclusion the director of public health in Bengal, drew from the The report concluded,

> The measures put into operation at Meenglas for the reduction of anopheles have been entirely successful in this direction. At the Meenglas bungalow and in the Factory Lines, which are in the centre of the treated areas, I could find practically no anophelines, while these were very easily procurable in most of the other neighbouring gardens. *As regards the actual reduction of malaria, this is a point on which it is very difficult to form an exact opinion, mostly owing to the factor of shifting population. Only a small population of the labour is permanent, others come and go.* Judged by the spleen index in the whole community, there would appear to have been little achieved, though the splenic index of the children, who have lived continuously in the estates, has been lowered to some extent. The sickness rates have been diminished but it is difficult exactly to apportion the amount due to the anti-mosquito measures[114]

The above comment made by Lt Col Stewart who investigated the Meenglas project in 1926 underlines and reiterates a public health problem quite familiar to any

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[113] *Annual Report for the Director of Public Health, Bengal 1927*, Calcutta 1927.
[114] *Report of the Malaria Survey of the Jalpaiguri Duars*, pp.ix-x. Italics mine.

preventive project in the tea gardens—that of the mobility of the free labour. As noted in the last chapter, the system of free labour was emphasised by the planters because it exempted the plantations from close government scrutiny of the kind implemented in Assam. We have seen in chapter 5 that the *basti* labour flanking the tea gardens were used in peak times but the management did not assume responsibility for them. The relationship between the tea garden and the *basti*, the inside and the outside, was one of dependence, suspicion and even hostility. The system of tea production relied on the seasonal labour from the *bastis*; yet every epidemic disease in any plantation was rumoured to have originated first from the *bastis*. In managerial discourse the tea garden was the sanitary enclave that would protect both the health of its labourers and the pristine and primitive nature of their cultures. Yet, the logic of the production of tea demanded a labour force that would work in the peak periods and preferably be settled outside the plantations so the management was relieved of year-round responsibility towards them. This duality, referred to in the last chapter, was starkly in relief after the Meenglas scheme.

There was one crucial conclusion that could be drawn from the Meenglas experiment. The survey noted that 'in such a hyper-endemic district as the Duars, anti -mosquito measures in a restricted area are apt to give benefits apparently hardly commensurate with the trouble taken.'[115] The problem was stated in clear terms: *all* the tea gardens in the area had to invest in anti-larval schemes for the reduction of malarial sickness to be effective. The cost of the entire project was Rs 16,000 (initial cost) and an annual expenditure of Rs 800 for the maintenance of the drainage and oiling.[116] If all the plantations in the area agreed to co-operate and

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[115] Ibid.
[116] *Report of the Malaria Commission*, p. 17.

conduct anti-malarial operations simultaneously, the incidence of infection would decrease; otherwise, as an isolated experiment the Meenglas would not be particularly successful. This had, indeed, been the conclusion of the Assistant Director of Public Health, Malaria Research, R.B. Khambatta who had visited Meenglas in July 1923 accompanied by the Director of Public Health. Khambatta had also served as acting Civil Surgeon for Jalpaiguri and was therefore familiar with the health issues of the tea plantations. He noted after his visit 'a diminution in spleen index' over the last five years, and lamented the fact that some of the workers had moved, for 'Had the population remained the same as it was 1917, the spleen index would have markedly come down to a insignificant figure'.[117] Another difficult problem identified was that of the migration of anopheles from outside the drained areas. He wrote of the possibilities of control of malarial infection, 'If the Managers of the neighbouring tea gardens viz. Dalingkote, Nedeem and Rangamati were to take up oiling the jhoras in their tea gardens as efficiently as it is being now done in Meenglas'.[118]

Some amount of oiling was taken up in the neighbouring tea gardens of Dalingkote especially after 1920, when the quarter of a mile radius was deemed insufficient for effective control of anophelines and the entire area of Meenglas was brought under the scheme and the neighbouring gardens were coaxed into spending a little on spraying kerosene in their jhoras.[119] This however was not adequate, for in the final report the problem was highlighted yet again:

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[117] *DPAA.R.1923*, Jalpaiguri 1924, (APAC), p. 105.
[118] Ibid.
[119] *Report of the Malaria Survey of the Jalpaiguri Duars*, p.5. The adjustment from the three-quarter mile to the entire Meenglas tea estate was based according to Ross's calculation of M= 1-40/a, M representing the infection rate and a the anopheline mosquito per head, whereby, it was found at the end of 1920, 'that to keep up the spleen rate of 93.58 percent, ...a minimum number of 667 carrier mosquitoes per head of population was required, that is by the scheme as it stood then, not more than

> In Meenglas, as the result of anti-mosquito measures, there has been much improvement in the spleen index but the result is not equal to expectation, as the infected mosquitoes are still migrating from the neighbouring gardens. If this influx could be stopped (and this can be done only when the surrounding gardens would adopt similar measures) the effect would be immensely greater.[120]

In the final report on the project a survey was made of the spleen index of some tea gardens in the Duars especially those near the Meenglas tea estate. The spleen index in Meenglas itself improved, but the scheme seemed not to have any effect in lowering the endemicity in the area.

Table 6.1 Spleen index of tea estates in Mal tea district of Duars in 1926

Name of Tea Estate	Total Number examined	Spleen index
Meenglas	394	53.5
Lower Fagoo	134	60.4
Nedeem	99	77.7
Sylee	294	75.8
Dalinkote	194	86.1
Rangamati	410	89.2
New Glencoe	255	89.4
Neora Nuddee	123	86.2
Total	**1,903**	**76.6**

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five-sixths of the original rate of mosquitoes per head could be reduced'. The Public Health department in Bengal under Bentley was thus experimenting with the findings of Ross and also Watson, who first implemented subsoil drainage in Malaya. The application of mathematical calculations to determine the extent of infection in a locality was begun by Ross in 1904 and used by the Ross Institute in Ceylon in 1930. See Gordon Harrison, *Mosquitoes, Malaria and Man: A History of the Hostilities Since 1880*, London 1978, p.206.

[120] *Report of the Malaria Survey of the Jalpaiguri Duars,* p.49.

Table 6.2 Spleen Index of tea estates in Nagrakata tea district of Duars

Name of Tea Estate	Total numbers examined	Spleen Index
Kurti	232	64.2
Hope	276	82.6
Jiti	335	84.5
Hille	208	85.6
Grand Total	**2,954**	**77.7**

(Source: Government of Bengal, Public Health Department, *Report of the Malaria Survey of the Jalpaiguri Duars*, Calcutta 1926, pp.7-8.)

There was a second crucial issue in anopheline control in Meenglas, and that was the existence of paddy fields close to the plantations and often within them. As mentioned in chapters 3 and 4, many plantations in the region allotted a part of their vast estates (staked out as 'waste lands') to the labourers where they grew vegetables and some rice. This served both as an inducement to retain labour in the tea plantations, for the allotments were made on the condition of work, and also kept the wages low. Further, the allotments served as instruments of control for the workers had no tenants' rights to their allotments and Royal Commission on Labour (1931) recorded that such 'bari' allotments to workers could be cancelled and the worker without notice.[121] The cultivation of rice required a great deal of stagnant water in the fields and bred carrier anophelines. For the Meenglas experiment, the cultivation of rice was stopped once the problem was identified, but that was *within* the Meenglas tea estate. Neighbouring estates did not follow up with like measures, therefore the migration of anopheline mosquitoes continued to subvert anopheline control within the experimental area. The final recommendations for the report

[121] *RCLI*, p. 384-85

unambiguously insisted, 'Paddy cultivation should not be allowed'. [122] The contradictions of the logistics of malaria control within the plantation economy thus were fundamental and could not be resolved, it appeared, from within it.

There was one further aspect to this contradiction. Anophelines of all varieties caught at the Meenglas Tea Estate and its environs were diligently examined. Some were sent to the Central Malaria Bureau at Kasauli for examination. The investigations revealed that there were, in total, fourteen varieties of anophelines in the area.[123] However, the dangerous carriers were fewer in number, such as the *A.maculatus*, *A.minimus*, and *A.culcifacies*. A survey of the ecology of malaria in the jungle areas of Bengal revealed that jungles did not breed anopheline carriers. Rather, the clearing of jungles and the substitution of tea bushes (or rice –fields) did

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[122] *Report of the Malaria Survey of the Jalpaiguri Duars*, p. 48. The factor of the cultivation of rice in the increase of malarial fever was acknowledged by C.A.Bentley who was the Director of Public Health in Bengal in 1925. See C.A. Bentley, *Malaria and Agriculture in Bengal: How to Reduce Malaria in Bengal by Irrigation,* Calcutta 1925. Also see Samanta, *Malarial Fever in Colonial Bengal,* especially pp. 33-73. Samanta reads Bentley's report uncritically as a condemnation of British policies of creating railways and embankments, which contributed to the lack of inundation, leading to stagnant anopheline breeding water in many parts of lower Bengal. The contribution of roads and railways to malaria in Bengal was the source of great debate in colonial India, and there was nationalist criticism of the destruction of traditional embankments and new construction sites. However, Bentley's contribution to the debate was significant because his solution was to implement the Italian concept of 'bonificazione'-, which concept, he said, 'embodies measures designed for a double purpose, viz. to improve agriculture and improve health.' See Bentley, *Malaria and Agriculture in Bengal,* p.125. In the context of (western) Bengal he advocated anti malarial sanitation not through the drainage of rice-fields, but through further inundation, preferably through irrigation on the model of Punjab and Sindh. Thus he did not offer a criticism of the development policies of the government, but rather sought to clearly probe the problem and suggested solutions that would lead to more, rather than less, investment in irrigation. For a criticism of his thesis that flooding, not drainage would solve the problem of malaria in the Bengal plains, see 'Malaria and Agriculture in Bengal', *The Lancet*, Volume 206, Issue 5331, 31 Oct 1925, pp.926-927.Bentley had first read a summary of his thesis in 1913, in a paper titled 'Some Problems Presented By Malaria in Bengal' at the sanitary conference in Madras. In an editorial the *Indian Medical Gazette* declared that Bentley's assessment could be 'misinterpreted'. It also stated that his views were those of an economist, not a scientist, and argued that depopulation in parts of Bengal had occurred due to natural silting up of rivers, and 'Drainage and engineering schemes can effect but little against nature'. It went on to state that such natural devastations had always occurred over time everywhere in the world, and concluded that 'During all great natural changes people who cannot adapt themselves to the changing environment must necessarily suffer'. 'Some Malarial Problems in Bengal' *Indian Medical Gazette*, March 1913, Vol. 48, p. 112-113.

[123]Bhupendra Mohan Khan, 'Records of Anophelines from the Bengal Dooars', *Indian Medical Gazette*, Sep 1929 Vol. 64, p. 496.

away with the harmless anophelines such as *A.aitkeni* and *A.barbirostris.* Once the jungles were cleared, they were replaced by the carriers:

> The coolie lines nearest the jungle are the least malarious, those situated in the middle of the open area have breeding of carrier species going on all sides of them. Madarihat, in the Duars, situated in a clearing in the jungle area, is notorious for its malaria. Here within the jungle itself only *A. barbirostris* and *A.leucosphyrus* were found, where in the cleared area *A.maculatus*, *A.minimus*, *A.culcifacies, A.fuliginosus, A.maculipalpis,* and *A.philppinensis* are found. Wherever deforestation is carried out, the harmless jungle species of Anopheles disappear and are replaced by the dangerous carrier species.[124]

Thus the carriers of malaria were to be found in the rice-fields and in the cleared areas of the tea estates, breeding in small *jhoras* or seepage areas. Sustained investigations revealed that malaria was, in effect, compatible with habitation and human livelihood itself. As to whether that led government policy makers to think of malaria as a consequence of modern agrarian development, distressing yet somehow inevitable, is not certain. But such conclusions, and simultaneous studies like those of Bentley on the links between embankments and malaria, led to the conceptual linking of malaria with modernity and development.[125] It also contributed to the nationalist critique of British policies in India. In the case of the rice-fields of Bengal, Bentley had provided a solution: more agrarian development through irrigation. Bentley added another twist to the 'bonificazione' scheme- he coined the term 'human bonification' by which he meant the encouragement of

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[124]'Jungle and Malaria In Bengal', *Indian Medical Gazette*, Nov. 1930, p. 639.

[125] Bentley, *Malaria and Agriculture in Bengal.* For the links between nationalist discourse on malaria and the construction of roads, railway, or embankments, see Sandeep Sinha, *Public Health Policy and the Indian Public: Bengal 1850-1920,* Calcutta 1998, pp. 104-148, and Samanta, *Malarial Fever In Colonial Bengal.* Neither of the two authors however critically analysed the medical debates around malaria and development in colonial Bengal. Klein has studied the relationship between ecology, environmentalism and malaria in colonial India and has argued that there was a relative decrease in malaria mortality in Bengal in the mid-twenties as compared with the late nineteenth century. He attributed this to the rise in immunity in the surviving populations in the worst affected districts of Bengal and pointed therefore that 'death by development' was a price paid by the poorest and most ill-nourished sections of the population. Klein, 'Development and Death'.

voluntary anti-malaria co-operative societies in the villages, who would carry out anti-malaria sanitation (without cost to the respective district boards or the provincial government) at a local level.[126] In the case of the Terai and the Duars no ecological solutions were conceptualised and local anti-malaria societies were non-existent.

So far as the provincial government was concerned, the experiment at Meenglas demonstrated that anopheline control was possible under two conditions. First, it would require the co-operation of neighbouring tea gardens in any region. Co-ordination between neighbouring tea gardens had simultaneously to begin and sustain malarial operations and was difficult.

Second, paddy cultivation within the tea estate lands would have to be stopped. Since the political economy of the plantations depended on the labourers' access to land to grow paddy, this was not a condition likely to be met. The situation was complicated by the fact that the planters used the results of the Meenglas experiment to situate the source of malaria in the rice fields in the *bastis* outside the tea plantations.

Not just in the Duars, in the whole of colonial Bengal, the rice fields were held to be the cause of malarial fever in the twentieth century. Just as they were impossible to obliterate in the rest of Bengal, the case for malaria control in the Duars too was laid to rest with the emphasis on paddy cultivation. Similarly, the study that revealed the direct link between deforestation, the obliteration of harmless anopheline and the rise in the breeding of dangerous anopheline carriers implied a similar condition; tea bushes have been claimed from the wild jungles and malaria seemed an inevitable

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[126] Government of Bengal Proceedings, Local Self-Government /Local Boards, No 31, IOR/P/11569, (APAC), pp. 69-70.

by-product of the modernisation and settlement of these parts. This was ironic, for it had been the call of tropical medicine to render the 'gift of half of the world', to make it possible for humanity to penetrate impenetrable tropical jungles and make them habitable.[127]

6.8. A Tale of Two Sites: Mian Mir and Meenglas

Ronald Ross visited India in 1926-27. On this trip he attended the inauguration of the commemorative gate raised in his honour at his old laboratory in Calcutta at the invitation of the Director of the new Calcutta School of Tropical Medicine (CSTM), J.W.D. Megaw. The *Indian Medical Gazette* pointed out that his visit was 'exceedingly timely'.[128] This was in reference to the increase in the number of malariologists in the IRFA, and appointment of qualified malariologists at some railways and at the Vizagapatam harbour. It referred too to the increase of interest on the part of some industrial and commercial concerns, such as by the Bombay cotton mill owners and the members of the ITA, who, it stated, 'takes malaria in the tea gardens of the Dooars and Assam very seriously.'[129]

Therefore Ross's visit to the Duars and Terai area, his comments on the Meenglas experiment and his speech to the planters in the region can be analysed to delineate the issues crucial to the management of malaria in the Darjeeling foothills.

Ross made the trip to the plantations in India as representative of the new Ross Institute at Putney, where research into tropical medicine was to be supported by industrial interests. He gave lectures at the Terai Planters Club and the Dooars Planters Club and later visited Malaya at the invitation of Malcolm Watson. He also

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[127] For the consequences of the commercialisation of agriculture and malaria in colonial Bengal, see Rajat K. Ray, 'The Crisis of Bengal Agriculture, 1870-1927-the Dynamics of Immobility', *Indian Economic and Social History Review*, Vol.10, No.1 (1973), pp. 244-279.
[128] 'The Future of Malaria Control in India', *Indian Medical Gazette*, January, Vol.62, 1927, p. 29.
[129] Ibid.p. 30.

visited the operations at Meenglas on 20 January 1927. Of his visit to Meenglas he remarked,

> ... Meenglas Estate, ... where anopheles control had been a failure, or at least very slightly successful. ... I attributed this to the fact that as the country was flat and open the area dealt with (a circle of only half a mile radius) was not sufficient (or nearly sufficient) to exclude outside *Anopheles maculatus* from entering the cooly lines, some which were close to the boundary.[130]

Almost two decades ago, in a continuation of the acrimonious debate on the failure of the anti-malarial measures at Mian Mir, Ronald Ross had alleged both the lack of adequate data and the faulty application of scientific knowledge in the Mian Mir operations. To him the fact that anophelines could be destroyed in any area had acquired perfect certainty; what remained to be done was to calculate certain variables and local factors:

> The logical basis of the great measure of mosquito reduction is absolute. .... The proposition, like the multiplication table, does not require experimental proof, and is incapable of disproof.... We have still to determine (a) the radius of operations required to reduce the density of a given species of mosquito to a given percentage and (b) the percentage of mosquito reduction required in order to obtain ultimately a given percentage of malaria reduction.[131]

In the case of Mian Mir (Punjab), the experiments had prompted the Indian medical establishment, particularly Christophers, to promote quinisation and segregation rather than anti-mosquito sanitation. One of the criticisms by Ross of the Mian Mir operations was that too little money had been spent, and if a cantonment had to be

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[130] Ronald Ross, *Malaria – Control in Malaya and Assam: A Visit of Inspection, 1926-7*, (Wellcome Library, London), p. 22. Publication details missing.

[131] 'Seventy Second Annual Meeting of the British Medical Association Held at Oxford, July 26th-29th, 1904 ,Proceedings of sections/Tropical Medicine,' *British Medical Journal,* , vol.2, 1904, pp. 632-635. The quote is from p. 635.

made free of malaria the authorities would have to invest in anopheline control in the same way that they would think to invest in drains and sewerage.

In Meenglas the malarial surveys had been made; the entomological studies and spleen index in Meenglas and neighbouring tea estates had been examined. Ronald Ross found subsoil drainage too expensive for the terrain; but the sum of Rs 16,000, plus the annual expenses of drainage had been spent by the state government in Meenglas. The Meenglas experiment mapped the anopheline infectivity of two districts in the region, and reduced the spleen index of the Meenglas tea garden to a certain extent. The problems faced by the Public Health department at Meenglas were not lack of scientific knowledge or unwillingness to apply that knowledge, but the logistic impossibility of extending the area under operation. While anti-malarial operations clearly pointed out that the stream-breeding anopheles could easily migrate from neighbouring tea estates, the management of the estates would not invest in subsoil drainage. Meanwhile, the government budget for the operation was limited and would not extend to cover the entire region.

Though Ross found many faults with the anti-malarial operations at Meenglas, it did not generate a controversy to the same extent. The experiment at the ill-fated cantonment of Mian Mir had been such an embarrassment that its very name had to be changed to Lahore Cantonment to avoid the notoriety associated with anti-malarial measures at that site.[132]

By the time the Meenglas experiment took place, malarial research of the previous two decades had increased the sheer volume of information about malaria. There was now sophistication in malarial research and the many variables of 'species sanitation' prompted more detailed sanitarian measures. They included methods of

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[132] Bynum, 'An Experiment That Failed'

spraying (spray cans were first used and discarded, and a special pack designed for the coolie sprayer) and subsoil drainage.[133] The report on Meenglas also recommended locating the coolie lines at the centre of the plantations, as far as possible from the infective *bastis* and rice-fields. Since most of the land in the tea plantations was utilised already, and the coolie lines were usually situated at the borders of the estates, this recommendation was not particularly realistic. Nor was the suggestion that the cultivation of paddy be stopped, for that disrupted the logic of the plantation economy. However, so far as the Public Health Department of the provincial government was concerned, the agency for control of malaria was now vested in the planters themselves.

The significance of the 'controlled' experiment with anti-larval measures at Meenglas, was its consequences for anti-malarial sanitation in other malaria-endemic areas of Bengal. As the annual report of the public health department in 1920 asserted, the experiment at Meenglas (and a similar experiment at the mining sites of Singaran and Topsi in Bengal) demonstrated that eradication of malaria would not be possible in hyper-endemic areas:

> Information of the greatest value has been gained by these two experiments, which show the extraordinary difficulty of producing a reasonable reduction of malaria, where infection is very intense, by the abolition of anopheles breeding places within a relatively limited area. It now seems doubtful if satisfactory results can be obtained in localities so intensely malarious as Meenglas and Singaran, unless anopheles breeding places are abolished within, where the spleen and fever indices of a very large number of the most unhealthy villages are as high as those of Meenglas and Singaran. In most of these villages, the cost of effective anti-mosquito measures of the kind employed with success at Panama, and more recently in parts of America, is in the present financial condition of the country likely to prove an insuperable obstacle to success.[134]

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[133] *Report of the Malaria Survey of Jalpaiguri Duars,* p. 48.
[134] *Annual Report for the Director of Public Health, Bengal, 1920,* p.15.

The lessons learnt at Meenglas were used by the Public Health Department to negate the possibility of drainage operations in any of the cultivated sites of the intensely malarial lower Bengal.

6.9. Tropical Medicine and Entrepreneurial Patronage: Malaria Research and Anti-Malarial Sanitation

The institutionalisation of tropical medicine was effected at the turn of century. While the metropolitan government supported the London School of Tropical Medicine, largely private interests supported the Liverpool school. The Liverpool School sent research expeditions to many places in the tropics for malarial research, Sierra Leone, Gold Coast, Panama, Egypt, and Greece (which was not in the tropics but was malarious) between 1899 and 1914. Some of them were commissioned specially by the Suez Company, for instance.[135]

In the first decade of the twentieth century, as we have seen, the Government of India under Curzon established some research institutions in India. The Board of Scientific Advice did not initially focus on medical research, rather on botany and geology.[136] But it gave an impetus to organised scientific research 'contained well within the government', which was different from the more individualistic and dispersed scientific research of an earlier period.[137] A great deal of research on malaria took place in the first two decades of the twentieth century at various research institutes in India.[138] Most of them were funded and motivated by various government agencies.

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[135] For a comprehensive list of the general details, finance and research output of the Liverpool School, see Helen Power, *Tropical Medicine in the Twentieth Century: A History of the Liverpool School of Medicine 1898-1990,* London and New York, 1999, pp. 249-255.
[136] Roy M. MacLeod, 'Scientific Advice for British India: Imperial Perceptions and Administrative Goals, 1898-1923', *Modern Asian Studies,* Vol.9, No 3. (1975), pp. 343-384.
[137] Ibid, p. 383.
[138] Jaggi, *Medicine in India: Modern Period,* pp. 161-164.

The Calcutta School of Tropical Medicine was instituted in 1921. Its establishment owed a great deal to the agency of Leonard Rogers, a member of the Indian Medical Service, who organised government and private support at the national, provincial and municipal levels for the institution.[139] The CSTM and attached with it the Institute of Hygiene and Carmichael Hospital, was funded by the Government of India, the Bengal government, and a large number of donations from the Indian elite. It also succeeded in attracting a few subscriptions from British-dominated industries in eastern India such as the jute, mining, and tea industries.[140] By the end of 1920 the institute was focusing on hookworm, *kala-azar*, leprosy, and diabetes. An appeal to the jute, tea and mining industries for patronage was made on the assumption that research on certain diseases would be particularly useful. Three diseases were identified and one researcher proposed for each study. The diseases were *kala azar* which was prevalent in epidemic proportions in Assam, but did not affect northern Bengal to any extent; ankylostomiasis, with particular emphasis for the jute mills. The third focus was on epidemic respiratory diseases, which were prevalent in the mining industry in eastern India. It was further proposed that other diseases such as bacillary dysentery, blackwater fever and filariasis could be examined at some stage.[141]

After a great deal of correspondence, the ITA at Calcutta agreed to the payment of twenty thousand rupees for five years to support research on *kala azar.* This worked out to one *anna* per acre of tea under cultivation for all members. After four years, the CSTM noted that research on *kala azar* had exceeded the sum sanctioned and

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[139] Helen J. Power, 'Sir Leonard Rogers FRS (1868-1962): tropical medicine in the Indian Medical Service' Doctoral Thesis, University of London, 1993, pp. 143-182.
[140] Helen Power, 'The Calcutta School of Tropical Medicine: Institutionalizing medical Research in the Periphery', *Medical History,* 1996, Vol.40, pp.197-214.
141 Letter from Hon. Secretary of CSTM to Secretary ITA, 7 Sep. 1920, *I.T.A.A.R.1920*, Calcutta 1921, pp. 313-319.

now the total cost of the research in Assam was Rs 27,200. The ITA suggested that the *kala azar* research in any case overlapped with research conducted by the state of Assam; therefore the research funds might be now directed to malarial studies in the tea plantations. The CSTM was unwilling to abandon the research at this late stage. After negotiations, it was concluded that the excess of Rs 7,200 would be paid by the members of the ITA. On its part, the CSTM would depute C. Strickland, head of the Entomology department, to conduct a preliminary survey of malaria in Assam and northern Bengal.

The 'expert survey' would cost around Rs 13,000 per annum.[142] The ITA noted that 'The idea was that, with the results of the preliminary investigation as a guide, it would be much easier to estimate the utility of the suggested malarial research'.[143]

In 1925 the annual report detailed the chief sources of funding for the year was Rs.2,62,000 from the Bengal government, Rs 87,600 from the Government of India and IRFA, Rs 3,82,400 endowment as well as aid of Rs 77,0000 rom 'private benefactors', and a total of Rs 71,150 from the tea, jute mills and mining associations, 'on the maintenance of three research departments'.[144]

The CSTM'S survey was done in Assam, where the total production of tea was more than two and half times of that of northern Bengal. The next year, at its annual meeting, the Chairman of the Dooars Planters Association floated the idea of a research institute in the Duars, perhaps as a branch of the CSTM, to investigate malaria in the Duars. The European Medical Officers' Association in the Duars, too,

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142 *I.TA.A.R 1923*, Calcutta 1924, p. 27.
143 Ibid, p. 28.
144 *Annual Report of the Calcutta School of Tropical Medicine Institute of Hygiene and the Carmichael Hospital for Tropical Diseases For the year 1924,Calcutta-1925*, (APAC), p.2. See also 'The Calcutta School of Tropical Medicine , *Indian Medical Gazette*, vol. 57, 1922, pp.105-115.

was in favour of it. However, the suggestion of the Chairman was directed not only to members of his Association:

> I commend this suggestion to everybody interested in the prevention and cure of malaria, not only to private enterprise, but to the Government of India. I maintain that the Dooars presents unique conditions for the study of malaria and other obscure tropical diseases in so much as there is a large population living under conditions which allow the history of treated cases to be followed up for years.[145]

The Chairman of the DPA thus presented the uniqueness of the disease environment of the locality as an invitation to the investigation of the causes of malaria within it. The appeal was directed, in a familiar tone, to the government- in this case the Government of India.

The Chairman of the ITA, also present as a guest at the meeting, was more realistic about government investment. On a cautious note, he informed the DPA that the cost of a research institute for malaria in the Duars would probably be around eight *annas* for each acre under tea in the Duars—a total of around Rs 35,000-50,000 annually. He proposed a more economical strategy, 'I suggest to you that we might get a better and quicker return from our outlay by carrying out a malarial survey in the Dooars similar to that recently completed in Assam by Dr Strickland'.[146] A survey would also certainly defer immediate expenditure on anti-malarial operations. The DPA thought this course of action to be the most prudent. In 1926 during the malarial season Strickland arrived at the Duars and conducted a preliminary survey. He was present at the general meeting of the DPA in January 1927. Of his survey in the Duars the Chairman commented,

> During the season the Dooars was visited by Dr Strickland of the Calcutta School of Tropical Medicine who made a very extensive survey of the

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[145] *D.P.A.A.R.1925,* Jalpaiguri 1926, p. ix.
[146] Ibid.p.xx.

> whole district from the Teesta to the Sankos, and he has collected and identified a large number of mosquitoes from different localities. We are looking forward to the publication of his report, hoping that the mass of information therein contained will form a valuable basis for future campaigns.[147]

As we have seen, Ross visited the area in 1926-7. He was invited to the annual meeting of the DPA too, and addressed the gathering of members and guests. Also present as an honoured guest was C.A. Bentley, the Director of Public Health in Bengal who had assumed responsibility for the overall supervision of the Meenglas project. One of Ross's objectives was to gather support for the newly formed Ross Institute at Putney. He began by referring to his visit to the region twenty-eight years ago, and remarked on the growth and prosperity of the tea industry in the region since then, 'the majority of those present appear to have thriven on it.'[148] He recounted an instance from Ceylon where a planter had informed him of the enormous losses he had suffered (around a thousand pounds a month in the season) on account of malaria in the tea plantations. He next referred to the Duars

> I now ask what does the Dooars intend to do? There have been several Commissions of investigation in the district in bygone times, including Dr Stephens and Dr Christophers about 26 years ago, and Colonel Christophers and Dr Bentley in 1908, another Commission a year or two later, and more recently you have had the work of Colonel Stewart and the comprehensive survey last year conducted by Dr Strickland.[149]

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[147] *DPA A.R. 1926.* Jalpaiguri 1927.p.vii. Strickland's report on Assam included recommendations for drainage and flushing, and also 'education' of the coolies See C. Strickland, *Abridged Report on Malaria in the Assam Tea Gardens,* Calcutta 1929. Though the anopheline of Assam had characteristics that were distinct from those of Duars, for instance *a.umbrosis* was a carrier in Assam whereas the Meenglas experiment proved that *a.umbrosis* was harmless in Duars, there were some familiar problems. The chief one was of the existence of rice fields and the cultivation of rice by some of the workers. See also, Strickland, 'The Mosquito Factor in the Malaria of Assam Tea Gardens', *Indian Medical Gazette,* Vol.60, Nov. 1925.

[148] *.DPAA.R. 1926*, Jalpaiguri 1927 (APAC), p. xvii.

[149] Ibid, p. xviii.

Entrepreneurial patronage facilitated certain studies on malaria in the Darjeeling foothills. The arrangement between the CSTM and the DPA resulted in several malaria surveys of the region, including Darjeeling and the Terai. Strickland published several papers on malaria in the hills, in the foothills of the Darjeeling Terai, and the Duars. Most of the studies located the extent of infectivity of certain anophelines and the specific conditions under which they could breed, and in one case there was a reference to some anti-malarial drainage in a tea estate in Darjeeling.[150] Others were comparative causes of epidemics of malaria in hill-stations, such as Shillong (Assam) and Kurseong (Darjeeling).[151] The Terai Planters' Association also funded a survey once more through the agency of the Calcutta School of Tropical Medicine.[152]

In this period the tea plantations were sites of malarial research, in terms of the opportunities provided by the terrain, the labourers, and a limited financial patronage. Christophers noted in his preface to the League of Nations Malaria Commissions report that anti-malarial initiatives rarely proceeded from surveys to preventive operations in the tea estates in India. Although he was at pains to project anti-malarial operations in favourable light in most parts of India, he conceded that

> At present, after a "survey" and recommendations, nothing very much often follows, largely because it is then left to the manager of such estate to do what he can, whereas the proper course would be to engage a suitable man to reside on the area and see to the carrying out of whatever was possible.[153]

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[150] C. Strickland, 'Malaria on Ambootia Tea Estate near Kurseong and the success of some anti-malarial operations', *Indian Medical Gazette,* March 1924, pp.119-120. See also, C. Strickland and H.P. Chaudhuri, 'More on Hill Malaria', *Indian Medical Gazette,* May 1936, pp. 267-269.

[151] C. Strickland, 'Notes on Malaria in the Hill-Stations in or near the Eastern Himalayas'. *Indian Medical Gazette,* Nov.1924, pp. 549-550. Strickland emphasised 'engineering works' over 'personal prophylaxis'.

[152] C. Strickland and K.L. Chowdhury, *Blackwater Fever and Malaria In The Darjeeling Terai,* Calcutta, 1931, p.3. D.N. Roy and K.L. Chowdhury, ' The Parasitology of Malaria in the Darjeeling Terai', *Indian Medical Gazette,* Vol.65, July ,1930. pp. 379-380.

[153] *Report of the Malaria Commission,* p. 26.

Particularly during the visit of the Royal Commission on Labour in 1931, the DPA promoted both the experiments at Meenglas and the survey by Strickland as evidence of the planters' sincere efforts to control malaria within the area. W.L.Travers, the planters' representative at the provincial assembly, commented on the visit of the Royal Commission,

> Colonel Russell, the Medical Assessor on the Commission when I was giving oral evidence asked questions which seemed to imply that he was not aware of the great efforts that have been made in the Dooars to fight against disease. I do not think he can be acquainted with the report made by Dr Strickland of the Calcutta School of Tropical Medicine or of the individual efforts made by gardens to check the spread of malaria by the intensive use of quinine, drainage, and anti mosquito spraying of which the results have been so promising.[154]

One of the most crucial hindrances to the efforts on the part of the tea estates in northern Bengal and in Assam to engage in anti-malarial operations was that the managers of the estate were personally responsible for the finances of the tea estate. Any long-term investment in a tea estate would detract from immediate profits and targets, and thereby from the commission received by each manager. Strickland had pointed this out clearly in his report and suggested that the managers not be made responsible for the anti-malarial sanitation work

> I am very strongly of the opinion, that the cost of anti-malarial work should not effect the commission of the staff of an estate. If it is made to do so, the practice will act like a dead weight on all the efforts of those who are trying to do some good.[155]

The tea industry's contribution to the CSTM was meagre and limited in scope. As we have seen, the tea industry preferred the government to make the investments

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[154] *DPAA.R.1929,* Jalpaiguri 1930, (APAC), p. 11.
[155] Strickland, 'Mosquito Factor in Malaria'.

in both research and implementation of anti-malarial sanitation programmes. The contributions and the resultant surveys seem to have been for rhetorical effect more than anything else. The industry was optimistic about immunity studies in malaria instead;

> One point...with Malaria which has always appeared to me rather strange is the remarkable degree of immunity which long residence in a malarious district invariably confers to me. ...I think every planter here, more especially those who have had anything to do with Nepalese labour, must often wonder why it is that newly imported coolies are so susceptible to malaria whereas the older residents living under exactly the same conditions go on year after year without having attacks and without taking any quinine. *I have often felt that it should be possible to create this immunity by some artificial means and thereby hasten on what nature now does so slowly.*[156]

From the perspective of managerial priorities, immunity studies presented a more attractive proposition than systematic anti-malarial sanitation or the full-scale implementation of a quinine policy. The Ross Institute at Putney, which was supported partly by the ITA in London, opened a branch in Shillong, India, in 1930, consisting of a director who was G.C. Ramsay, and one assistant. When drainage measures did take place in India under the supervision of the Ross Institute at Putney, they tended to be concentrated in Assam where the large managing agencies had contiguous territories and several tea gardens under their control. In Assam, moreover, the import of labour was much more expensive and difficult than in northern Bengal. When some anti-malarial operations did take place in northern India between 1935-39, they were concentrated in Assam rather than Terai or Duars, where both the acreage and the capital outlay was more modest. The Ross Institute participated in some anti-malarial operations in northern Bengal as well as Assam

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[156] Speech of Chairman, DPA at the annual general meeting, *D.P.A.A.R.1926,* Jalpaiguri 1927, p. vii. Emphasis mine.

and further conducted some reports on anti-malarial preventive measures in northern India from the mid -thirties.[157] However, most of the tea estates concerned were based in Assam, and it was observed that Duars and Terai lacked in the initiatives towards species anti-malarial prevention.

The shortage of quinine during Second World War aggravated the problem of malaria in all the plantations, including those in north Bengal.[158] In 1946 two studies were conducted on the living conditions of the plantation labourers and the medical facilities available there. Both the reports were commissioned by the government in the post-war context of the emergent independent state of India. The Labour Enquiry Report of 1946 and the enquiry into the medical facilities received by the workers in the plantations, noted the low standards of health and the high prevalence of diseases, including malaria, among the working population of northern Bengal.[159] Deaths by 'fever' remained the single largest cause of death in the plantations. As for anti-malarial works, one of the reports commented that

> Very little anti malaria work is being done at present in the Dooars and what little is being done is confined to shading and draining of the streams.... In the Terai and Darjeeling also very few gardens have done any anti malarial work, in spite of the heavy incidence of malaria. The little work that is done in a few gardens is confined to spraying wells occasionally in the lines.[160]

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[157] The Ross Institute of Tropical Hygiene, London School of Hygiene and Tropical Medicine, Supplementary Report to the Indian Tea Association, 1934, MssEur/F174/1212, (APAC). See also Griffiths, *The History of the Indian Tea Industry*, p. 357.

[158] B.Chatterjee, 'Treatment of Malaria in the Present Emergency', *Indian Medical Gazette*, Nov. 1942, pp. 701-2.

[159] Rege, *Labour Investigation Committee;* Jones, *Standards of Medical Care for Tea Plantations*

[160] Rege, *Labour Investigation Committee*, p.91.

6.10. Conclusion: 'The Living Laboratory': Where Were The Tea Plantations Located?

So far we have seen that the Darjeeling foothills and the plains of the Duars were the subject of studies in tropical medicine in London and then in the colony in Calcutta. The notion of the causation of malarial fever in industrial locations all over India came to rest largely in the factor of non-immune immigration and the tropical aggregation of labour, confirming Schaffer's findings in Sumatra. When the malaria control programme was begun at Meenglas, it borrowed from the knowledge of anophelines and preventive work done by Ronald Ross (the anopheline count per head of the population factor in infectivity) and Malcolm Watson (subsoil drainage) and sought to retest their thesis in that locality. Thus the tracts of Duars and Darjeeling Terai were at once connected to the entire tropical world and to the world of metropolitan and colonial tropical medicine.

In this respect, the Darjeeling foothills were not unique. Colonial realities informed, complicated, and challenged the inadequacies of current medical theories in the metropolis. In a recent work Helen Tilley, through an analysis of the medical, scientific, ecological and anthropological debates on the African Research Survey (1929-1939), has argued that Africa was 'living laboratory' for scientists in the inter-war years. She has argued that unlike the 'controlled' laboratory, the complexity and heterogeneity of African conditions informed medical theories in

Britain which challenged 'reductionist' biomedicine in Britain as well as 'vertical' theories of disease control so far as species sanitation in malaria was concerned. [161] The central problematic of the 'living laboratory' is, to my mind, neither its multifarious nature, nor its ability to confound medical theories conceived in diverse conditions. It is rather in the content of its location in political economy, demonstrated most clearly in the implementation of the medical theories, however complex and modified, in the said colonies. In the case of African Research Survey, Tilley has not analysed the medical practices in rural Africa (as opposed to medical theories of species sanitation in the region); nor has she questioned its use (or experimentation), however limited, in urban spaces or areas of white settlement.

The tea plantations in the Darjeeling foothills were, as we have seen, at the forefront of the latest medical research on malaria in early the twentieth century. Simultaneously, the prevention of malaria was located in the rhetoric of the uniqueness of the *local.* Thus contemporary research on such conditions as the hospitability of the different terrain to particular sub-species of the vector anophelines, merged seamlessly with concerns over the peculiarities of labouring populations within the tea plantations and outside them, at the *bastis*- all framed in a set of conditions termed the 'local'. The objection raised by the workers to the use of quinine as prophylactic was also an issue of their own particular customs and ways of life. The planters argued that quinine prophylaxis could not be administered to the workers for such 'primitive' peoples could not be forcibly brought under a prophylactic regime.

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[161] Helen Tilley, 'Africa as a "Living Laboratory": The African Research Survey and the Colonial Empire: Consolidating Environmental, Medical and Anthropological Debates, 1920-1940', D.Phil. Dissertation, University of Oxford, 2001.

The rhetoric of the local was important in two different ways. So far as the workers were concerned, the planters generally claimed that quinine prophylaxis could not be administered effectively because the workers were resistant to it. They insisted also that the local government should not interfere in the management of disease within the plantations. Instead, the close knowledge of the labourers and their customs that the management possessed enabled them to decide best what need be done for the health of their labourers. The majestic announcement of the planters' spokesman, W.L. Travers, after the visit of the Royal Commission on Labour to the tea estates, is representative of managerial claims on behalf of the labourers and formed the justification for a gradualist approach to the reform in health infrastructure within the plantations:

> Our labouring population, or the great majority of it is drawn from the races of Chota Nagpur. These races have their own religion, languages, and racial customs to which they naturally cling most persistently. Many of their racial and religious customs tend to impede the work of health improvement and welfare, and therefore it is of great importance that all measures for their uplift in any direction should be under the control and direction of persons who really know and understand the customs, traditions and habits of these aboriginal people.[162]

On the other hand, the idea of 'species sanitation' in tropical medicine contributed to the discourse of the local condition in the prevention of malaria everywhere in the tropics.

The dual imperatives of the local and the international sustained the growth of knowledge in tropical medicine, and the tea plantations in the Darjeeling foothills contributed to leading research on tropical medicine. They were the sites of many 'unique' conditions, conditions for testing scientific theories. As noted above, the

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[162] *DPAAR 1929,* Jalpaiguri 1930, (APAC), p.x .

Chairman of the DPA promised unique local conditions when asking the government to fund malaria research in the Duars. Partly this appeal was rhetorical; the planters' associations generally sought to shift pecuniary responsibility for any research or sanitary works to the government in its role as the *zamindar* (landlord) of the district, while retaining the claim to absolute authority over their workers and their plantation. (See chapters 4 and 5). However, partly, too, the distinctiveness of the region and its local conditions contributed in various aspects to the knowledge of tropical medicine. From their contribution to tropical medicine, through the testing and verification of disease theories in their localities, to their contribution to the malarial policies of Bengal and India generally, they were an important site of exploration of new ideas and experimentation in new methods of anopheline control.

At the same time, the political economy of the plantations contributed to a complex set of factors that inhibited both anti-malarial sanitation as well as systematic and full use of quinine prophylaxis within the tea plantations. Anti–malarial operations were not undertaken on a sustained basis, with both the local and provincial governments claiming with scientific authority, that the management had to be responsible for the elimination of mosquito breeding in its lines. The management on its part shifted the responsibility from the plantations to the *bastis*, thereby rhetorically situating the plantations themselves within a sanitary enclave. The responsibility for the prevention of and control of malaria, however, was accepted neither by the planters' associations, nor by the provincial or local governments.

Some of the European medical officers within the plantations had made isolated attempts at destruction of the anopheline breeding within a decade of the discovery

of the mosquito-vector transmission by Ronald Ross.[163] Such efforts were also made in isolated instances by managers in certain plantations in the 1920s and 1930s.[164] The logistics and structure of the plantation economy, however, did not have to accommodate any enduring system of malarial prevention.

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[163]'The Campaign Against Malaria in the Duars', *The Lancet,* Volume 172, Issue 4429, 18 July 1908, p. 174.

[164] C. Strickland, 'Malaria on Ambootia Tea Estate near Kurseong and the success of some anti-malarial operations', *Indian Medical Gazette,* March 1924, pp. 119-120.

Chapter 7

Habitation and Health in Enclaves: The Hill Station and the Tea Plantations

7.1. Introduction

So far we have discussed the impact of colonization and consequently, the medical policies in two different, contiguous sites; the hill-station of Darjeeling and the tea estates in its adjoining regions. The town of Darjeeling, originally conceived of as a European enclave, invited from the very beginning traders, immigrant labourers, and Indian civil officials and servants; and with its development came the greater colonization of the entire Terai and Duars areas. The first chapter has demonstrated that the town of Darjeeling was neither an indisputably healthy hill-station, nor was it a white enclave. Certain areas within Darjeeling were marked out for the use of the European population, and the Eden Sanitarium for Europeans was one of them. What the hill-station of Darjeeling also signified as an enclave was that the British perceived it as a privileged area. The town itself, administered directly by the colonial administration, provided a space for medicalised leisure to the European population; and the sanatorium provided an exclusive space unavailable in the plains for the rejuvenation of white bodies. Through its various social spaces the British population in India sustained a socially exclusive site for themselves in some areas of Darjeeling. As a consequence, the medical facilities within the urban space of Darjeeling were of a much higher standard in the colonial period than in the surrounding areas. In that sense, the town of Darjeeling was an enclave of particular privileged medical infrastructure. The tea plantations in the Darjeeling district and in the adjoining Duars that were established in the same phase of colonization as Darjeeling were enclaves of a different sort. Firstly, their management mostly

comprised European personnel whose social world and medical requirements corresponded with those of the Europeans in Darjeeling; therefore the provisions for their healthcare constituted their own doctors with British qualifications as well as the option to go to the privileged site of Darjeeling in case of emergency. Further, the identity of plantations as enclaves was embedded within the structure of the tea plantation economy in colonial north Bengal. As pointed out in the previous chapters, the system of free labour and the necessity for a working population that provided seasonal labour was achieved through the gradual settling of ex-tea garden labourers in *bastis* outside the plantations. Simultaneously, planters kept eye on encroachment by other agencies, including the government and political parties.

The isolation of the tea estates was not entirely due to geographical factors. The mines and plantations represented special sites, the habitations of the workers being placed together – very different from the *chawls* or *hatas* inhabited by the industrial workers in the mills of Kanpur or Bombay, for instance, where labourers lived in equally crowded and unsanitary habitations, which were rented to them by private landlords and were contiguous to the mills, not remote and cut off from the respective cities.[1] In that sense, the plantations too had a dual identity; they were porous and yet were enclaves. The provisions of healthcare for the labourers in the plantations were located within the system of production of the plantation- paternalistic and individualistic. At the same time, the labourers and their bodies within the plantations provided a unique site for the testing of medical techniques

[1] For a vivid description of working class habitations, the overcrowded *hatas* where street life merged in many ways with the workers' lives within their homes in colonial Kanpur, see Chitra Joshi, *Lost Worlds: Indian Labour and its Forgotten Histories*, Delhi, 2005, pp. 121-126. Prashant Kidambi has argued that in early twentieth century Bombay, the Bombay Improvement Trust which was intended originally to provide sanitary, cheap accommodation for workers failed in its project, and instead of in the Trust's tenements, the working classes lived in the over-crowded privately *chawls* near the mills the docks in the heart of the city. See Prashant Kidambi, 'Housing the Poor in a Colonial City: The Bombay Improvement Trust, 1898-1918', *Studies in History,* Vol.17, No. 1, 2001, pp. 57-79.

and theories in the expanding specialisation of tropical medicine in the twentieth century. The plantation management used the symbiotic relationship between the plantation and the *bastis* to engage in a continuous negotiation with the government over the responsibility for the healthcare of workers within the *bastis*. In this context, the *bastis* and the sites outside the plantations emerged as the sites of disease in managerial and often in official discourse. Much like the healthy-unhealthy dichotomy of the hill-town of Darjeeling vis a vis the 'plains', such a duality was not sustainable. The discourse however enabled the managerial element within the plantations, much like the European population in Darjeeling, to sustain the myth of the healthy/unhealthy duality vis a vis the plantations and the *bastis*.

After the Second World War and in the post-Independence situation, the two coterminous enclaves met with differential fates. The aspect of rejuvenation for white bodies of Darjeeling became irrelevant. The British presence in the entire northern Bengal area was represented mostly by the planters. The enclaved aspect of the town was represented by the Dooars and Darjeeling Home, a specialized hospital set up and subscribed to mostly by the planters' associations of northern Bengal. The plantations themselves, on the other hand, by the very nature of their isolated circumstance and the labour habitations within the tea estates remained the focus of government health policies, thereby accentuating the differences especially at the level of government policy, from the surrounding countryside.

As argued in the first chapter, Darjeeling was incorporated in the wider colonial polity and economy of north Bengal over the nineteenth century. At the same time, the town of Darjeeling stretched to accommodate various demands on its multiple identities- as an European social enclave and seasonal administrative centre, as well

as the hub for the planters of the hill area, and as an aspirational social and site of rejuvenation for the Bengali elites.

In the early part of the twentieth century the town of Darjeeling accommodated the settlement of diverse social and economic interests within itself. After Independence, however, its characteristic changed at a more fundamental level. With the transfer of power in 1947, the numbers of British/European civil servants within the Indian administration dwindled to a very small minority. The European character of the hill station was then mostly defined by the British planters. The 'sterling companies' and their British recruits stayed on in India after Independence. The question here is, what did the hill-station of Darjeeling represent in the latter part of the period under analysis. I shall examine the nature of the European enclave of Darjeeling in the context outlined above.

The tea industry in northern Bengal also accommodated large- scale changes in its structures of functioning after Second World War and the transfer of power. The newly emergent nation-state positioned itself, too, as the arbiter between labour and industry, borrowing some of the rhetoric from its predecessor, the colonial state. However, the nature of structural changes initiated by the independent nation-state was of a more interventionist nature. In this chapter I shall also examine some of the changes initiated within the medical infrastructure of the plantations in immediate post -Independence India.

7.2. Native Darjeeling

As mentioned in the Chapter 2, by the end of the nineteenth century Indian elites, particularly Bengalis had also staked a claim on Darjeeling. By 1880 a big *zamindar*

like the Maharajah of Burdwan had built a fine summer palace in Darjeeling.[2] Other men from professional classes such as civil servants and barristers also owned property in Darjeeling. Many others visited briefly during the summer, residing in one of the several boarding houses that sprang up to cater to Indian visitors, usually below the Mall, at the edge of the railway station.[3] The population of Darjeeling continued to expand. The hill station was not isolated in this respect; Simla also burgeoned and accommodated Indian elite, most contentiously native princes from the neighbouring Punjab.[4]

The hill-stations, like many other sites of European privilege, thus came to be contested by the Indian elite. In doing so in Darjeeling this mainly Bengali elite transformed the racial understanding of acclimatization in the mountains as also healing Indian bodies.[5] They simultaneously appropriated many aspects of the social space of Darjeeling. Thus this newly acquired social space managed to accommodate western medical values while also subverting the racial component of the sanatorium. Needless to say, this was a long drawn process. One example will illustrate the negotiations that formed a part of this process of the construction of *shailashahar* (mountain-town) Darjeeling.

In November 1906 the Lowis Jubilee Sanatorium, the replica of the Eden Sanitarium that catered to wealthy Indians, invited the Governor of Bengal to visit the newly built pthisis ward. As we have seen in chapter one, at this time medical authorities

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[2] Sri Harimohan Sanyal, *Darjeelinger Itihas,* Calcutta, 2005, (first published 1880), p. 25.
[3] K.C. Bhanja, *Darjeeling At A Glance- A Handbook Descriptive and Historical of Darjeeling, Sikkim and Tibet with thrilling accounts of Everest and Kanchenjunga Expeditions by land and air*, Calcutta, 1942, (Second edition), p. 77.
[4] Pamela Kanwar, *Imperial Simla: The Political Culture of the Raj,* Delhi, 1990, pp. 95-104.
[5] For instance, in 1909, a scion of a zamindar family in Dhaka, Kumar Ramendra Narayan who was suffering from syphilis at an advanced stage, when ulcers were breaking on to his arms and legs, was advised to go to Darjeeling in the summer by his physician. See Partha Chatterjee, *A Princely Imposter? The Kumar of Bhawal &the Secret History of Indian Nationalism*, Delhi, 2004, p. 38.

condemned the climate of Darjeeling. A visit from the Governor Sir Andrew Fraser and the Civil Surgeon of Darjeeling Colonel Crofts produced a note from the latter objecting to a pthisical ward for the institution. Crofts pointed out that, 'Darjeeling is not suitable for the Pthisical Ward. For the ordinary native it is too cold; it is certainly too wet. ... with very little sun, and it is very much crowded....the ground space and the cubic air space allowed ...are altogether inadequate'.[6]

The Governor agreed and proposed a reconsideration of the pthisical ward.[7] A special committee which included the Civil Surgeon, the Director of Public Instruction for Bengal, and Mr Bompas, Chairman of the Darjeeling Municipality, who was also the President of the managing committee of the Lowis Jubilee sanatorium were present at the meeting. *The Bengalee* reported that 'Colonel Crofts read a lengthy note and stated that Ranchi would be best suited to pthisical patients. Mr Bompas, ... pointed out that the Phthisical ward was constructed with the consent of Government.'.[8] The grant of Rs 15,000 provided by a philanthropist, Dinamoni Choudhurani of Santosh, had certainly been endorsed by the provincial government.[9] The Commissioner of Bhagalpur, while recommending sanction for the ward, assured the government of the suitability of the designs for the proposed ward, pointing out that 'the Executive Engineer is a member of the Committee'.[10] Next week *The Bengalee* published a scathing editorial attacking the Governor himself; ' Sir Andrew Fraser is nothing if not a man of *zid*....perhaps it is in his opposition to the proposed pthisical ward in connection with the Lowis Jubilee Sanatorium in Darjeeling, that this distinguishing trait...has most persistently thrust

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[6] *The Bengalee*, November 17, 1906, (Reel no 41, National Library, Calcutta), p. 6.
[7] Ibid.
[8] Ibid.
[9] Government of Bengal Proceedings, Municipal/ Medical, (WBSA), pp.xii of B Proceedings Index.
[10] Government of Bengal B Proceedings, Municipal/ Medical, Feb. 1906,No.139-40. (WBSA), p.1.

itself upon the public view'.[11] The editorial then detailed the three years and various medical opinions (some by Bengali doctors) that had reviewed the proposed ward and pronounced themselves satisfied. It next pointed out,

> Sir Andrew Fraser objects to the provision of a pthisic [sic]. ward in the Lowis Jubilee Sanatorium but the same Sir Andrew has commended in a Resolution the construction of a pthisic [sic]. ward in the Eden Sanatorium. Are we to understand that what is good for the Eden Sanatorium, to which only Europeans are admitted, is not good for the Lowis Jubilee Sanatorium which is resorted to by "natives" only? [12]

The editorial ended with an appeal to the Government of India to intervene. The issue was next taken up at the Bengal Legislative Council. One Babu Radha Charan Pal enquired, ' Is it not a fact that three eminent medical authorities and two experienced Divisional Commissioners consulted by Government, were in favour of the construction of this ward?', and further pointed out that the 'abandonment of the design at the present juncture will mean the throwing away of so much money and labour'.[13] In the face of staunch opposition, the Government assured the Council that ' An endeavour is being made, in consultation with the Committee of the Sanitarium and with Medical Officers, to arrive at a decision which will be in the interests of the patients and of the public.'[14] Ultimately the government gave in and the pthisis ward stayed in place. However it set out its view of the kind of native cases who could benefit from a stay at the sanatorium in Darjeeling,

> There can be no doubt that the climate of Darjeeling, is too damp to be a suitable one for consumptives who are in an advanced state of the disease. But the Lieutenant Governor is advised that during the dry months cases in the incipient stages, free from pyrexia, with limited lesions, or not breaking

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[11] *The Bengalee*, Tuesday November 27, 1906, (Reel no 42, National Library Calcutta), p. 3.
[12] Ibid.
[13] Government of Bengal, A Proceedings, Municipal/Medical , 1907, No. 86, (WBSA), p. 69.
[14] Ibid.

> down, would be benefited by a stay in Darjeeling....under proper supervision and treatment...The Sanitarium however, plays a very important part from he educational point of view as regard patients and the community; for the patients learn how to treat themselves, to disinfect sputum, to eat suitable food, and they subsequently spread the knowledge.[15]

The pthisis ward was to stay; there would be some limitations on the admissions to the ward, depending on the seriousness of the patients' condition. The managing committee of the Lowis Jubilee Sanatorium agreed to certain conditions laid down by government; including the stricture that only patients in the early stages of pthisis would be allowed in the sanatorium.[16]

The episode highlighted that the social aspirations of the Bengali elites in the replication of British medical institutions altered the debate over race and acclimatization. In this sense, racial and social equality were understood to be inextricable; what was good (medically efficacious) for the Europeans should be good for the natives as well.

The racial etiquette that excluded sometimes even the highest placed Indians (and the Anglo-Indians) from key social spheres in British India formed the basis of support among the upper echelons of Indian society for the nationalist movement. This contest for social space also translated to an appreciation of mountain sanatoria

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[15] Ibid.p.71.Letter of Secretary to Govt of Bengal to the Commissioner, Bhagalpur Division, 15 January 1907.

[16] Government of Bengal Proceedings A, Municipal / Medical May 1907, No.159-60,(WBSA), p. 8. As we have seen in the first chapter, the dampness of Darjeeling was not seen as suitable for European patients with pthisis. But the perspective was not entirely unanimous. In 1886 the annual report of the Eden Sanitarium claimed that 'several especially of pthisis, derived very great benefit, the climate of Darjeeling being particularly favourable for this complaint'. Government of Bengal Proceedings, Municipal/Medical, No.8-17, April 1886, IOR/ P/2806, (APAC), p. 37. The next year itself, Superintendent and Civil Surgeon commented on the treatment of pthisis in the Eden Sanitarium; ' This disease seems to be benefited by the change in climate in its earlier stages. When once softening commences...the change to Darjeeling is attended with little benefit.' Government of Bengal Proceedings, Medical Department, Nov. 1887, No. 16-18, IOR/P/2946, (APAC), p. 14.

for the health of Bengalis. In the twentieth century, mention of Darjeeling was found frequently among prominent Bengalis. Rabindranath Tagore, litterateur and poet, visited Darjeeling often. In November 1931 he wrote to his friend William Rothenstein, 'I have come to Darjeeling in search of health and peace of mind, but the latter has run out of stock in the present day world and I must not complain'.[17] Swami Vivekananda, resting at Darjeeling in 1897 in the palace of the Maharaja of Burdwan, wrote to a friend, 'After a great deal of hard work ... my health had broken down; necessitating a rest for my mind in the town of Darjeeling.'[18] This took many forms; for the Hindus, the Himalayas were also sacred space. Though the Hindu pilgrimage sites were located in the western Himalayas, district of the then United Provinces, Darjeeling was reputed to be the site of an old Buddhist monastery, possibly the mountains evoked a romantic spirituality.[19]

Darjeeling was articulated, as the quotes above represent, as a site for regaining peace and calm away from the crowded plains, a retreat for healing tired bodies and minds away from the rigours of life in the plains. The controversy over the pthisical ward of the Lowis Jubilee Sanatorium was a contest for the separateness of Darjeeling articulated in medical terms for the Indians. In effect, when the upper and middle class Bengalis retreated to Darjeeling for rest and recuperation, they were replicating European habits.[20] It is interesting that within a decade of the episode of the pthisis ward this time, the Civil Surgeon of Darjeeling did not think it advisable to recommend Darjeeling to European pthisis patients; or to the poorer

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[17] Ratan Biswas, *Bangla Sahitye Darjeeling Jela,* in *Madhuparni: Bishesh Darjeeling Sankhya, 1996.* Calcutta 1996, p. 373.
[18] Ibid. p. 369.
[19] Jahar Sen, *Darjeeling: A Favoured Retreat,* New Delhi, 1989.
[20] P.J. Marshall has pointed out in a different but similar situation, that the Indian elites replicated European styles of life in nineteenth century Calcutta, 'By a mechanism which remains unexplained, architectural styles moved from the white town to the black town', See P.J. Marshall, 'The White Town of Calcutta under the Rule of the East India Company, *Modern Asian Studies,* Vol.34, No.2 (May, 2000), pp. 307-331.

class of Europeans, for Darjeeling was now both crowded and expensive; a sojourn at Darjeeling could be so expensive that he claimed that 'It would be cheaper to take a trip home than to Darjeeling for people of moderate means'.[21]

7.3. Overcrowded Town: Urban Pressures and Claims for Exclusivity

Several alternative health resorts, for Indians of varying classes were developed in this period. In 1903 the Municipal Commissioners of Kurseong, a small town at a lower height in the Darjeeling hill area, and occupied mostly by planters, appealed to the Provincial Government for funds to develop it as a hill resort. In their address to the Governor, they pointed out the 'already overcrowded condition of Darjeeling'[22]. The Governor agreed that Darjeeling was 'greatly in need of relief from over-crowding', and added that the climate of Kurseong '...is better adapted than that of Darjeeling to many constitutions, *especially those of Indian gentlemen.*'[23] Thus, smaller hill-stations located at lower elevations needed to be encouraged to accommodate 'Indian gentlemen', thereby taking the pressure of Indian presence off Darjeeling. At the same time, 'Indian gentlemen' well ensconced in Darjeeling also sought to keep out countrymen of a different class. Indeed, the Maharaja of Burdwan contributed Rs 20,000 development of the hill-cart road to Kurseong and offered further assistance.[24]

More was to follow. A couple of years after the controversy over the pthisis ward, a few eminent Bengalis met government officials unofficially to discuss the

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[21] J. T. Calvert, 'Note on Darjeeling Climate In the Treatment of Pthisis'. Reprinted from the *Indian Medical Gazette*, Vol. XLIV, April 1909, p. 2.
[22] Address presented to the Lt. Governor by the Municipal Commissioners of Kurseong and reply, 23 June 1903, Government of Bengal Proceedings, Municipal/Municipal, November, 1903, No. 28-29, IOR/P/6565, (APAC), pp. 47-48.
[23] Ibid.(Emphasis mine.)
[24] Ibid.

establishment of sanatoria for the benefit of the 'poorer classes'.[25] They included the Maharaja of Burdwan (who possessed a fine palace at Darjeeling), Kailash Chandra Bose (a lawyer and a philanthropist ; who later made a large contribution towards the CSTM), Dr Nil Ratan Sarkar, (a prominent western medical practitioner and the founder of the Indian Medical Association).They asked Colonel Lukis, the Sanitary Commissioner of Bengal, to draw up a project for a sanatorium for lower middle class Indians somewhere in the plains of Bihar, away from the insalubrious climate of Bengal, but not located in the mountains. The Maharaja of Burdwan contemplated that the proposed sanatorium would be 'an institution purely for people of the poorer classes, such as the low paid clerical staff employed under Government or elsewhere, suffering from tuberculosis and other diseases'.[26] He specified that 'it should not be of the same type as the sanitarium at Darjeeling, which...largely seemed as a hotel for visitors to that station.'[27] Thus in so far as its function was concerned, the Lowis Jubilee Sanatorium appears to have perfectly replicated the character of the Eden Sanitarium and Hospital on which it was modelled. The concern for the development of an alternative sanatorium was possibly also to avoid Darjeeling being overrun with cheap boarding houses to accommodate the lower middle classes who had begun to throng the hill town at it edges. The Maharaja of Burdwan pointed out that 'In view of the overcrowding of Darjeeling, he did not think it advisable that the institution should be started at that place'.[28] The alternative locations for the sanatorium proposed at the meeting were

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[25] Government of Bengal A Proceedings, Municipal/ Medical, May 1909, No. 36-37, (WBSA), p. 39.
[26] Ibid.
[27] Ibid.
[28] Ibid.

Madhupur, Deoghur, and Simultola, all in the forested and hilly plateaus of the neighbouring province of Bihar.[29]

In 1915 Jadunath Ganguli, a Bengali doctor in Benares, recommended his town's value as an alternative health resort for Bengalis of modest means, pointing out that hill sanatoria in general were too expensive 'for the average Bengali'.[30] He also noted that, 'Very few of the Indian health resorts have received that stamp of efficacy for curing particular diseases, which alone enables the physician to recommend them for those diseases. So that as in Waltaire or Darjeeling, all sorts of patients rush in pell-mell'.[31] For Indian bodies, too, Darjeeling emerged as a site of contested medical discourses and of medicalized leisure; and the resources of the town strained to accommodate them in the high season. An interesting aspect of Darjeeling's supposed efficacy for Bengali physiques is that while they were a growing presence in Darjeeling, Bengali clerks were perceived to be too weak to acclimatize in Simla; 'The ill-paid and ill-fed clerks are quite unable to stand the trying cold of Simla'.[32] Instead, their positions were gradually filled by educated men from the neighbouring Punjab.

That overcrowding in Darjeeling town was posing health risks in the twentieth century is clear. In 1895 the deforestation in the town itself led to a major landslip, causing fatalities among the European population as well as the natives. The 'native' settlements within Darjeeling were pushed to new areas not previously considered suitable for building houses. In 1906 the Commissioner of Bhagalpur appealed to

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[29] Ibid.p. 40.
[30] Jadunath Ganguly, 'Benares as a Health Resort for Bengali Invalids', *Indian Medical Record*, March 1915, p. 43.
[31] Ibid.
[32] Kanwar, *Imperial Simla*, p. 165.

the provincial government to allow construction at the Toong Soong Basti site, condemned as an unsafe area by the Landslip Committee of 1906.[33] The government refused to relax building restrictions at that site.[34] But the town continued to grow at the edges. In 1919 the Secretary of the Darjeeling Municipality pointed out to the government that the Sanitary Commissioner of Bengal had on request made a survey of the town and ' traced all the sanitary defects to the want of expert supervision', recommending the appointment of a health officer for Darjeeling.[35] A meeting of the municipal commissioners of Darjeeling discussed the report which stated the problems of Darjeeling to be:

> ...the defects ...brought to notice in connection with vital statistics, conservancy, arrangements, food supply, and the sanitary arrangements and cubic space, etc. in hotels, boarding-houses and schools , and the want of proper arrangements in places in which mosquitoes are likely to breed and spread infection are all traceable to a single cause viz. the want of expert supervision.[36]

But the problems of an expanding town with limited civic facilities, originally intended for fewer residents than it had to host in the early twentieth century were not to be resolved with the mere appointment of a health officer.[37] The upper class Bengalis felt it as keenly as the British. In 1917 a petition was made by some prominent Darjeeling Bengalis who belonged to the Brahmo Church for the removal of a fish market from its vicinity.[38] The question was next taken to the Council

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[33] Government of Bengal A Proceedings, Municipal/ Municipal, No.156-158, 1906, (WBSA), p. 9.
[34] Ibid.
[35] Government of Bengal Proceedings, Municipal/Sanitation, Dec 1919, No.61-62, IOR/P/10521, (APAC), p. 49.
[36] Ibid, p. 50.
[37] Most of the other principal hill-stations felt the pressures of over-crowding and the consequent spread of diseases within the town. Kennedy argues that the incursions of Indians at various levels- ' The Intrusion of the Other' strained the resources of the hill-stations. See Dane Kennedy, *The Magic Mountains,* pp. 175-201.
[38] Government of Bengal Proceedings, Municipal / Municipal, February 1918, No 16, IOR/ P/10306, (APAC), p. 27.

where the government replied that it had no knowledge of the market. [39] Evidently the fish market had sprung up to meet the demands of the growing population. The overcrowding in the town led to typical urban problems so familiar in the plains of India. For instance, in 1918 the Municipal Commissioners of Darjeeling thought it necessary to raise the fine for begging in the town 'for discouraging professional beggary' from Rs 10 to Rs 50, a huge sum, for the second offence.[40] The special position of Darjeeling, with its high municipal rates (and residents capable of paying them) and added government grants, enabled it cope with the pressures to some extent. In 1921 the resolution on the working of municipalities of Bengal noted that

> Improvements were effected in the water supply, drainage, electric lighting and municipal buildings, while by the purchase of the Lower Beechwood estate the municipality will be able to take up in the future a housing scheme to meet the growing demand for the provision of houses of a cheap and sanitary type.[41]

In the same year the Commissioner of Rajshahi sent a note to the municipal secretary of the government of Bengal which pointed out the special efforts made towards preserving the greenery of Darjeeling town itself

> ...arboriculture, as carried out in the town of Darjeeling, differs from that work as done elsewhere in Bengal. After the landslips of 1899,the Darjeeling Improvement Fund (Town) Committee devoted their attention to planting up the slips and other bare areas, with a view to ensuring the safety of the hillsides. .... ensuring the safety of the hillsides have added to the beauty of the town.[42]

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[39] Ibid.
[40] Government of Bengal Proceedings, Municipal /Municipal, September 1919, No. 37-38, IOR/P/10520, (APAC), p. 49.
[41] 'Resolution Reviewing the Reports on the Working of the Municipalities in Bengal, 1921-22', Govt of Bengal Proceedings, Local Self Government / Municipalities Branch, July 1923, No.50, IOR/P/11304, (APAC), p. 48.
[42] Government of Bengal Proceedings, Local Self Government/Local Self-Government, March 1921, No. 12-13 IOR/P/10980 (APAC), p. 22.

The prosperous settlement of Europeans and Indians within the town, and the high municipal rates augmented with generous government grants to the Darjeeling Improvement Fund, ensured that Darjeeling remained cleaner and better provided with municipal amenities than most towns in Bengal despite overcrowding and encroachments, and problems in supplies of drinking water and sewage disposal. In 1923, the annual report on municipalities of Bengal noted the lacklustre functioning of civic municipalities in Bengal and pointed out that Darjeeling was the only exception:

> Progress is impossible in these municipalities without an increase in income, whether by raising the rates or by more stringent assessment. The Darjeeling Municipality fully maintained its reputation as a progressive municipality. Improvements were effected in the water supply, drainage, electric lighting and municipal buildings, while by the purchase of the Lower Beechwood estate the municipality will be able to take up in the future a housing scheme to meet the growing demand for the provision of houses of a cheap and sanitary type.... so long as the fear of increased taxation continues to be the common meeting ground for progressive and reactionary, municipal administration must be dreary, uneventful and barren[43]

In 1923 when this report was written the nationalist movements on a mass scale were predominant, and particularly in Bengal local self- government was the object of nationalist political protest and boycott- yet it was undeniable that the Darjeeling Municipality enjoyed a favourable reputation for maintaining sanitary provisions that were exceptional in Bengal.

At the same time, the pressures of a relatively crowded urban space possibly sullied the expectations of travellers and tourists in the summer. In the 1920s and 1930s, a Himalayan tourism route to Sikkim and Bhutan developed. The travel guides in the

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[43] Resolution on working of municipalities in Bengal, Local Self-Government/ Municipalities, July 1923, IOR/P/11304 (APAC), p. 48. Harrison has pointed out that in the case of Calcutta, the Indian elite who controlled the municipality of Calcutta in the late nineteenth century refused increased rates needed to implement sanitary provisions. See Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge, 1994, pp. 202-226.

1940s emphasised Darjeeling as the gateway to the Sikkim, Bhutan. Many tourists to Darjeeling who sought to experience the beauty of the Himalayas now preferred to go for treks to the Sikkim after a short halt in the town.[44] Darjeeling was also the first stop for mountaineering expeditions.[45] The first of the Everest expeditions took place in 1921.[46] But even for many ordinary European travellers, Darjeeling represented a base for the exploration of the quieter and scenic routes to neighbouring Bhutan and Sikkim. Major Somerset, a doctor then serving in the IMS, went to Darjeeling in November 1944 by invitation of the secretary of the Planters' Club who had been his patient. There he met one Major Kidd, who was an 'old retired journalist' living in Darjeeling and who 'used to make arrangements for people to go on trek. '[47] During the Second World War I Darjeeling was also a military and air base for British troops on the eastern front.[48]

7.4. Exclusivity and British Planters after Independence

Immediately after the war and the Indian independence, the particular place of Darjeeling as a European sanatorium diminished with the exodus of the British civil and military officials. At this time, the British planters and the few missionaries at Kalimpong were the European population of the area. A contemporary reminiscence by a missionary at Kalimpong, who belonged to a planting family, recounts Christmas 1947, the year of Independence. In the sodden early hours of the

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[44] Darjeeling was still an attractive town, but somewhat jaded. A traveller remarked in 1920, 'The journey to Darjeeling is to most people an every day event. ...its comparative ease in accessibility by rail has made it a week-end affair with husbands anxious to pay a fleeting visit to their winter wives'. See R.J.Minney, *Midst Himalayan Mists*, Calcutta, 1920, p. 4.

[45] For instance, see Percy Brown, *Tours in Sikhim and the Darjeeling District,* Calcutta, 1944. (fourth edition) and Bhanja, *Darjeeling At A Glance,* pp.113-41.

[46] T. S.Blakeney, 'A. R. Hinks and the First Everest Expedition , 1921', *The Geographical Journal,* Vol.136. No. 3, (Sep 1970), pp. 333-343.

[47] Mss Eur D 1023, (APAC), p. 179 of typescript.

[48] AIR 29/493, PRO.

next morning a few of the planters fantastically plotted for a separatist movement – a 'British Sikkim'- an island of Britishness in the tea estates.[49] The planters in the Duars, Terai, as well as in Darjeeling petitioned the newly instituted office of the High Commissioner of Britain in India that British component of the entire region represented by the planters, was prominent enough to deserve a separate consul or, as the Deputy High Commissioner described it, ' a small outpost' in the northern Bengal region.[50] The high commission did not pursue this, because the Deputy High Commissioner who toured the northern Bengal tea districts reported that the tea plantations were scattered and isolated from each other.

The changed character of the Darjeeling town was reflected in the fact that there was no longer a racially exclusive medical infrastructure. The Eden Sanatorium itself was taken over by the government after 1950, and amalgamated with the main hospital of the town, the Victoria hospital. At the time of amalgamation the Eden hospital, 'subscribed mainly by the Planters' Associations', was the best equipped hospital in the area, with its 'major X-ray set, Electric Diathermy, and Electric Vibrator Apparatus,' and carried out X-ray works for other hospitals in the district.[51]. The European planters, deprived of an exclusive medical institution, established the Dooars and Darjeeling Medical Association, a hospital for mainly for the use of the planters. To do so they relinquished part of the Planters' Club, a gracious building overlooking a ridge with marvellous views of the snow mountains.[52] Its chief medical supervisors were British, at first an ex-army man.[53]

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[49] Jennifer Fox, *In the Shade of Kanchenjunga*, London, 1993, p. 161.
[50] 'Tour Notes of the Acting Deputy Commissioner for the United Kingdom, Calcutta, - Dooars, Darjeeling and Kalimpong areas',L/PJ/7/13925, (APAC), p. 1.
[51] A. Mitra, *West Bengal Census 1951: District Handbook: Darjeeling*, Alipore, 1954, p. 1. See also Rahul Sankritayan, *Dorjeling Paricaya*, Calcutta ,1950, p. 128.
[52] *D.P.A.A.R.1948,* Kalimpong, 1949, p. xxxiii.

All the planters' associations in Darjeeling, Terai, and the Duars subscribed to it, the rates being eleven annas per acreage of tea in Darjeeling and Terai and eight annas in Terai.[54] Thus the appropriation of the Eden sanatorium and hospital by government merely led to the establishment of another exclusive medical institution. The town itself maintained its own hospitals, with a few charitable dispensaries in the remote *tahsils*. Darjeeling was decisively no longer an enclave, but an exclusive medical institution offered the privilege of special treatment for the planters all the same.

7.5. The Enclaved Plantations: Privilege and 'Industrial' labour

The planters, unlike the missionaries in neighbouring Sikkim, had depended directly on their status as 'Europeans' in British India.[55] An emotional sense of loss at the dismantling of the British empire was overlaid with urgent tones, following the new resolve of the emergent nation-state to act as arbiter between the tea industry and the interests of the labourers. It was a process that had begun in the previous decade. From the 1940s, the tea plantations as enclaves were being breached repeatedly.

This breach was different in character from the fissures within the enclaves in the colonial period when the district officials were generally respectful of the authority of the tea estate managers, and scattered labour recalcitrance was kept a close secret except in times of overspill. In the fourth chapter I indicated that such changes occurred during the war years, when the railway workers unionised and in turn mobilised many tea workers. The *tebhaga* movement, in which many tea garden

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[53] *I.T.A.A.R.1950,* Calcutta 1951, p. 107.
[54] *I.T.A.A.R.1951,* Calcutta 1952, p. 122.
[55] For an account of missionary activity in education and medicine in Kalimpong see Alex Mackay, 'Footprints Remain: the introduction of Western medicine into the Indo-Tibetan Himalayas, 1870-1970', Manuscript Copy.

workers participated with their kin among the ex-tea workers who were sharecroppers, also contributed to the sense of impending, fundamental changes among the planters.

Simultaneously, there were other factors that contributed to the crumbling autonomy of the plantations. The mobilisation of labour for the Second World War, particularly on the eastern frontier, absorbed labour from the plantations and their catchment areas. During the hard years of the Bengal famine, the tea estates, (see Chapter 4) procured rice, the staple food, and some other essentials such as jaggery and oil- sometimes from the local markets, often from outside, to feed their labourers, both permanent and *faltu*. The district officials as well as the provincial government assisted the planters' associations in the procurement of rice. The wages were calculated partly in kind. During the war years the tea estates, European and Indian-owned, competed among themselves to obtain *basti* labour.

From the early 1940s, the plantations were no longer isolated, virtually sovereign estates. When the Government of India instituted enquiries into the conditions of the plantation workers in 1946, they were unmoved by the planters' protests that the time was not convenient for such an enquiry. The reports, examined to some extent in the fourth chapter, made wide-ranging recommendations.[56] These included the establishment of a pyramid of large 'group hospitals' and better stocked and well attended dispensaries at the individual tea gardens. Griffiths, an ICS officer who was later employed as adviser to the ITA during the 1950s, commented that, 'In his

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[56] Of the two reports, one focused on the standards of living of the plantation workers. R.V.Rege, *Report on an enquiry into conditions of labour in plantations in India*, Simla, 1946. The next report concentrated specifically on medical infrastructure in the plantations. E. Lloyd Jones, *Standards of Medical Care for the Tea Plantations in India : A Report*, Government of India, Ministry of Labour, 1947.

study of the medical organization of the tea industry, Jones revealed himself as something of a theorist with a bureaucratic desire for uniformity'.[57] Jones recommended a three- tier system of hospitals within the plantations, (regional hospitals/ group hospitals/ garden dispensaries). However, he principally emphasised the need for preventive health and health care at the level of the garden dispensaries,

> ...the fact remains that the vast bulk of the mortality, and even more of the morbidity of the tea gardens,...is the result of conditions arising from poor diet, inefficient sanitation, contaminated and insufficient drinking water, the ignorance of the workers, which are easy to recognise, and do not ordinarily require elaborate facilities for diagnosis, or highly specialised treatment.[58]

The focus by government on labour health was part of a larger concern with the lives of the plantation workers; this included a moves for minimum wage, paid holidays, and other benefits. This was the time when the tea estates were unionised, and the planters participated in the unionisation by patronising the 'moderate' Congress unions rather than the more radical Communist ones.[59] The unionisation of the tea estate workers in northern Bengal was a complex phenomenon, beyond the scope of this work. For our purposes it suffices to point out that the nature of relations between labour and management changed to a great extent. For instance, after 1948, the Indian Tea Association handbooks always provided statistics on the number of strikes in each tea district in India. The *mai-baap* (paternalistic) relationship between the planter and his workers did not disappear overnight, but had to accommodate intermediaries such as trade unionists and labour officers.[60]

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[57] Percival Griffiths, *A History of the Indian Tea Industry*, London, 1967, p. 361.
[58] Lloyd Jones, *Standards of Medical Care,* p. 20.
[59] The point has been made by Ray, *Transformations on the Bengal Frontier*, p. 196.
[60] Ray has pointed out that the in the process of unionisation the workers were left with little autonomy or agency in the actual negotiations with the government. The long-term impact of the war

The negotiations for all-India legislation began with a tripartite meeting between the government, labour representatives and the industry held on 31 March, 1948. Wage increases were high on the agenda. The chairman of the DPA reported to the members of his association,

> at the outset it was made clear that an agreement would have to be made for some increase not necessarily because labour was as it was often stated underpaid, but that the standard of living of tea garden labour had to be raised and that there was ample room for improvement on both counts.
>
> So that was the writing, quite plain on the wall.[61]

The negotiations were long and often acrimonious. Apart from the abolishing of the piece wage, the settlement for a minimum wage and other benefits, the workers also demanded medical facilities that, they insisted, should be controlled by the government rather than the plantations. The government's intent to intervene within the plantations, however, did not extend to such lengths. The chairman explained to his members that,

> Labour wanted the whole thing under Government including the appointing of Dr. Babus, nurses and the whole shooting match at of course our expense. This we would not agree to and Government accepted our views that control over Estate Medical arrangements should be in our own hands.[62]

The new government insisted on the 'conception of labour's partnership in industry', and the agenda for the meeting included the fixing of new wages, standards of medical care, and discussion of outline of legislation covering all

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and the tebhaga movement was that it 'strengthened the hand of the government vis a vis the planters', Ray, *Transformations on the Bengal Frontier*, pp. 196-7.

[61] *D.P.A.A.R.1948-9,* Kalimpong, 1949, p. 24.

[62] Ibid, p. 24.

plantations.[63] After several rounds of negotiations, the Plantation Labour Act (PLA) of 1951 was passed by the Government of India. The Act specified the numbers of hospitals and doctors, maternity benefits and crèches, as well as the abolition of piece rate and the introduction of minimum wages, the construction of *pucca* houses, and provisions for clean water and conservancy facilities for the workers. The measures were to be at the expense of the tea industry, who were to be provided with some government concessions on quotas of steel and cement which were rationed in the post-Second World War years. The PLA represented a significant degree of state intervention within the plantations.[64] The planters negotiated to a great extent, claiming, for instance, that large 'group' hospitals need not be provided by the plantations and should instead be the responsibility of the government,

> It is considered that the Plantation Industry can no longer be described as working in undeveloped areas, and that, by reason of their substantial contributions to general revenues they should not be expected to provide these facilities which are in other industries provided by the State[65]

They pointed out also that the industry was expected to provide ten hospital beds for every thousand workers, whereas the national average of hospital beds in India was 00.24 per thousand.[66] The planters' desire to make the government responsible for the health care of its workers was, as we have seen, hardly a new phenomenon. Nor was the comparison between the facilities provided by the tea industry with those enjoyed by other agricultural labourers.

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[63] *Summary of Proceedings of the second session of The Industrial Committee on Plantations Held at New Delhi on 31st March and 1st and 2nd April, 1948,* n.d., IOR/V/26/670/73, (APAC).
[64] Mss Eur F174/1022.
[65] 'Draft model rules for Plantation Labour Act, 1951', Mss Eur F174/1021, (APAC), pp.2-3.
[66] Ibid.

However, the new government viewed the tea plantations as enclaves where, through legislation, medical facilities not available elsewhere in rural India might be enforced. In principle, this was similar to the colonial government's legislation, in the JLA. The provisions of the PLA far exceeded any recommendations made by the Royal Commission of India, 1931, many of which had not been implemented until then. In the immediate aftermath of the war and Independence, the Indian state and the newly established trade unions pushed through the PLA under the principle of the 'partnership between labour and industry' where the labourers were conceived to have a share in the profits of the companies. Though the provisions of the PLA were never implemented fully, they nevertheless demarcated a new relationship between the planter and labourer, where the planter was no longer to be the provider and the protector of the labourer.

7.6. Conclusion: 'The Measure of a Sahib'

> A tea garden in Darjeeling hills is run on tradition; the whole structure is founded on the ideals laid down by the pioneer planters who set out the estates....Once they are convinced...that the new Sahib is a sound and strong character, they accept his authority without question...Because the manufacture of tea at remunerative prices is largely dependent upon cheap, unskilled labour, the relations between garden coolies and estate managers is the single most important factor in the production of tea.[67]

Despite government legislation, the extent to which medical care within the plantations was dependent upon the idiosyncrasies of individual planters is evident from David Fletcher's reminiscences. He relates an anecdote when Tuli, a woman worker in the plantation where he was an assistant, was injured. She came to his bungalow and was attended by his wife, who cleaned her wound and then asked him

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[67] David Wilson Fletcher, *The Children of Kanchenjunga*, London, 1955, p. 22.

if Tuli would be able to stand the sting of iodine. He replied, 'To the coolie mind, a medicine that doesn't have some immediate effect is not potent enough ...Iodine will at least convince this woman of its potency!'[68]

So little is known of workers' perceptions of their own illnesses, or indeed of their own world of *ojhas* and healers who existed side by side with the doctor babus (and in all probability provided a major part of the health care to the working population of the estates), that we cannot surmise what Tuli herself made of the iodine on her wound.

This episode indicates that change in health care, or indeed any structural changes in the tea plantations was gradual and slow despite government legislation and intervention. The actual implementation of the PLA took several years, indeed even in the 1970s many tea companies had not complied with its various regulations.[69] The important factor in the post-war and Independence years was that the enclave of the tea plantations was encroached upon on a more systematic scale than ever before. In the post-PLA years the planters continued to cite labourers' cultural values as justification for the lack of basic sanitary facilities in the plantations.[70] The tea plantations by their very enclaved nature were expected by the state and the trade unions to provide for health services in a way that was not available to ordinary residents of the district.

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[68] Ibid. p. 46.

[69] A government inspector's report in 1972 noted that on an average there was one medical practitioner for 1,750 workers and makes a comment that is familiar to us, ' the workload of the individual doctor has been heavy'. *Annual Report of the Administration of the Plantation Labour Act 1951,for the year ending 1972,* Alipore, n.d., pp. 3-4. Two years later the annual report recorded 105 cases of prosecution against employers, generally for 'violation of welfare provisions'. *Annual Report of the Administration of the Plantation Labour Act 1951, for the year ending 1974,* Alipore, n.d., p. 3.

[70] Sharit K.Bhowmik, 'Labour Welfare in Tea Plantation An Assessment of the Plantation Labour Act, in Sebastian Karotemprel and B.Dutta Roy (ed), *Tea Gardens Labourers of North East India: A Multi-Dimensional Study*, Shillong, 1990, pp. 187-199.

Conclusion

The story of Darjeeling town and the tea plantations of the tea districts in the colonial period is one of the colonization and settlement of an agrarian-plantation economy. Both the hill station and the plantation complex were particular habitations, distinct respectively from urban or rural Bengal. The tea economy provided the economic momentum for the newly settled region in the mid-nineteenth century. This distinction was manifested, as I have shown, in the migration and habitation patterns here. This dissertation has used their distinctiveness to understand medical practices and public health policies in the plantation economy of north Bengal.

The hill station of Darjeeling, like many such in colonial India, was established in the nineteenth century as a sanatorium for Europeans in the tropics when prospects for white acclimatization in the tropics seemed to be waning. Its climate was not an unmixed blessing; both the inhabitants of the army cantonment and the civilian settlement suffered from the damp and the cold of the mountain sanatorium. The town of Darjeeling functioned, however, as a distinctive social space and as a centre for medicalized leisure- an exclusive space for British civilians as well as planters from the three tea districts of the region.[1]

By examining the question, to what extent was Darjeeling medically salubrious for the European troops as well as civilians, this dissertation has demonstrated that the hill-station enclave was a contradiction in itself. The town of Darjeeling drew sustenance from an expanding plantation economy. The 'enclave' was rattled from without by Indians of every class- some indispensable servants, others westernised middle classes aspiring to emulate the ruling class. Within, the British soldiers who

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[1]W. M. Fraser, *Recollections of a Tea Planter*, London 1935, p. 76.

belonged to a very different social group from the Victorian middle class British civil and military officials possibly disturbed the peace of the town occasionally- at any event they presented a different aspect of the ruling race from the civilian and official population.[2] As the town expanded, two sanatoriums, one each exclusively for the Europeans and the Indians, were established to accommodate the growing numbers of invalids suffering mostly from 'debility'. The qualified medical opinion and experience regarding the efficacy of Darjeeling as a therapeutic site did not inhibit its reputation as a sanatorium. Both the Eden Sanitarium and the Lowis Jubilee Sanatorium were sites of medicalized leisure. In an increasingly overcrowded town, the Eden Sanitarium, located equally distant from the native bazaar and the European Mall, served as another enclave within the hill-station. The other significant clientele of the Eden Sanitarium were European planters from Darjeeling, Terai and Duars.

Much of the economic vitality of the town came from the tea plantations. The entire Darjeeling district became the base for the expansion of plantation economy in the Terai and later, in the Duars as well. It did so through a careful utilization of both forest reserves and 'waste-lands' for tea plantations, and benefiting from government policy of encouragement to migrants from Nepal and grants of land for tea cultivation. The tea plantations consequent to the settlement and colonization were distinctive habitations that assumed particular significance. The plantations were laid out and planted by resident European managers and assistant managers; in the pioneering years these were a heterogeneous collection of individuals. Their

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[2] In 1903, for instance, the Cantonment Act (Act XIII of 1889) was enforced throughout the municipality of Darjeeling to prevent to prevent the purchase of liquor by soldiers through 'private persons' in the town. Letter from J.H.E.Garrett, Deputy Commissioner, Darjeeling to Commissioner Rajshahi, 13 May 1903, Government of Bengal Proceedings, Municipal/Municipal, July 1903, No. 1-3, IOR/P/6565, (APAC), p. 1.

exploits in clearing and harnessing forested, miasmatic land, in the Darjeeling foothills and Duars, when many died of fever and other disease created and sustained their self-image of men of heroic endurance and multifarious skills.

Tea plantation was a labour- intensive industry; resident within the plantations were large numbers of labourers who were either migrants from eastern Nepal or tribals from the Chota Nagpur district, recruited and worked through the sardari system. Unlike in Assam, in north Bengal labour was non-contractual. Therefore the sardars who were both recruiters and leaders of *pattis* (gangs) of workmen in the field and factory, were crucial to the physical and material well being of the individual labourer. The system devised was one of patronage; a sardar might nominate a favourite coolie to recruit on his behalf who in time could become a sardar in his own right. A paternalistic chain was formed from the labourer to the sardar and they to the manager, where health care was not a functional end for the individual worker, but generally obtained as a form of gratuity. This system continued even when medical infrastructure was established on a more stable basis in the plantations. It enabled the tea estates to provide inadequate basic healthcare and sanitation for the labourers.[3] But simultaneously, there existed for the labourers, the prospect of favour in the form of financial assistance for medical care from the planters.

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[3] The Labour Investigation Committee reported in 1946 that of the thirteen 'sampled' tea estates in Darjeeling and Terai, seven had qualified doctors. The Darjeeling Planters' Association stated to the committee that the majority of the tea plantations in the district had compounders as resident medical personnel. The report also noted that 'The majority of the dispensaries however had only a few medicines for preparing fever mixtures and first aid accessories. In serious cases, the patients are sent to the nearest hospital but this takes a long time as the gardens are in most cases far from the towns.' See D.V. Rege, *Labour Investigation Committee: Report on an enquiry into conditions of labour in plantations in India,* Simla, p. 91. While noting the lack of qualified medical personnel in Duars the report added, 'It is true that all European-owned and some Indian owned gardens are visited once a week by a group Medical Officer who is paid by the gardens in the group on an acreage basis. But in serious cases, it is often very difficult to avail of his services on account of the gardens being so widely scattered'. Ibid.

The healthcare system that evolved in the plantations was one where incremental preventive and therapeutic policies were always generated in the context of those available in the bastis located outside the boundaries of the estates. Paradoxically, there was a 'symbiotic' relationship between the bastis and the plantations, and it was not possible to separate the two habitations into exclusive enclaves. At the same time, the plantations emerged as sites for medical research. This included research on hookworm, where the persons of the labourers and their living conditions were subjects of clinical analysis. The tea estates were also sites for malaria research, which included both experiments on anti-malarial sanitation, research on quinine prophylaxis and immunity studies. The structure of the plantation economy prevented the long-term, systematic implementation of that research in the healthcare of the labourers.

At the same time, both the hill station and the plantations were privileged in terms of medical facilities and infrastructure. Indeed, the availability of doctors and of medicines such as quinine (used both prophylactically as well as for curative purposes) within the plantations, dispensed though they were in an ad hoc manner, in all probability exceeded those that were available outside in rural Darjeeling or Jalpaiguri.[4] In 1920 the annual report of the Director of Public Health admitted that although the government policy was to encourage the use of quinine in Bengal,

> If the people of Bengal were to absorb quinine in the same proportion as the population of Italy, they would require 100,000 lbs. of the drug per annum. If the sales of quinine in Bengal per head of the population were on the scale of those in Greece, the consumption of the drug would be close upon 400,000 lbs per annum or nearly 40 percent of the world's supply. Neither Italy nor Greece is as a whole so malarious as Bengal and until the consumption of cinchona derivatives in the latter country is at least ten times what it is at present it is not likely that any great reduction

[4] Statistics are not available on a regular basis. In 1927 and 1928, the per capita distribution of quinine in Jalpaiguri district was a meagre 0.5 grains per annum. See *Annual Report of the Director of Public Health for Bengal for the year 1928*, p. 49.

> of malaria will be secured by its means except in a few isolated localities where it can be used in amounts proportionate to the needs of the people....These considerations render it unlikely that the malaria problem of Bengal can be solved by the agency of quinine. [5]

Provisions for rural healthcare in colonial north Bengal were minimal. The development of medical infrastructure through a network of charitable dispensaries that was characteristic of entire colonial Bengal was painstakingly slow. One reason was the continued popularity of indigenous medical practitioners such as *kabirajes* and *hakims*. In 1892 the annual report on dispensaries in Bengal noted the scant attendance in dispensaries in the province as compared to Punjab or Oudh and reasoned that firstly, 'A very considerable portion of the population of Bengal also consists of aboriginal tribes scattered over hilly tracts of country, where there are few roads, and besides, these tribes prefer to resort to charms and incantations than take medicines of any kind', and secondly, '*kobirajes* and *hakims* etc, practising medicine according to native methods, are much more numerous and have a higher reputation among the people of Bengal than in any part of India'.[6] This trend had not abated significantly in 1920.[7] Moreover, there was a lack of village and even district level dispensaries. Particularly in Darjeeling and Jalpaiguri, the local elite a large proportion of which comprised planters, rarely contributed to local, village charitable hospitals. In Duars, the DPA when requested by the Civil Surgeon, initially refused two beds at the Jalpaiguri hospital (a charitable dispensary

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[5] *Annual Report of the Director of Public Health for Bengal for the year 1920,* p.16. We have seen in Chapter 6 that anti-malarial sanitation was limited to specific areas such as mines, plantations, and other industrial works. When control of malaria through spraying D.D.T. was inaugurated in twenty-six villages in West Bengal in 1948, the districts of Jalpaiguri or Darjeeling did not figure in the scheme. See *Annual Report on the Health of the Population of West Bengal for 1949*, Calcutta 1953, p. 18.

[6] 'Report on the charitable dispensaries in Bengal', Government of Bengal Proceedings, Municipal/Medical, April 1892, No 5-19, IOR/P/4100, (APAC), p. 276.

[7] See letter of Sanitary Commissioner of Bengal, May 1918, to Secretary, Municipal Dept, Government of Bengal Proceedings, Municipal/Sanitation, March 1920, No.6, IOR/P/10765 (APAC), p.4.

maintained by the District Board, the Jalpaiguri Municipality, government grants and private subscriptions) at an annual cost of Rs 400 in 1914 although around 55 tea estate labourers were treated at the hospital each year.[8] Instead it was left to individual tea estates to choose whether or not they wished to subscribe to the institution.[9] In 1926 the hospital declared that subscriptions from tea estates did not even cover the cost of treating tea labourers in the hospitals, and the subscription scheme was replaced with a scheme for the payment of Re 1 per day per worker treated at the hospital.[10] From 1935, the DPA agreed to subscribe to the Jalpaiguri General Hospital for a five- year period. The hospital, however barely survived from one year to the next- its annual reports testify to its general impoverished state.

But outside the purview of the hill station and the plantation areas, the availability of dispensaries in the two districts was dismal. In 1935, there were eleven hospitals and dispensaries in Darjeeling district.[11] But outside of Darjeeling, Kurseong and Kalimpong (where missionaries had built a sizeable hospital) , only two hospitals one at Naxalbari (16 beds for men, 3 for women) and the other at Siliguri in Terai (16 beds for men, 2 for women) had in-door facilities for treating patients.[12] The rest were village dispensaries. The tour diaries of F.O. Bell, ICS, reveal the lack of care and attention to the charitable dispensaries at Bagdogra and Matigara in the Terai, and such neglect was representative of most village dispensaries.[13] In Jalpaiguri in 1935 there were seventeen dispensaries, but barring the district hospital at Jalpaiguri and that at Alipur Duar (which had 6 beds for men and 2 for women),

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[8] *D.P.A.A.R.1914*, Calcutta 1915, pp. 76-8.

[9] Ibid. Twelve tea estates, possibly the ones located closest to the hospital, paid an annual subscription of Rs 263 to the hospital in 1913.

[10] *D.P.A.A.R.1926*, Jalpaiguri 1927, p. 145.

[11] *Annual Report on the Working of Hospitals and Dispensaries under the Government of Bengal for the year 1935*, Alipore 1936, pp. 58-9.

[12] Ibid.

[13] Misc. Papers, dated from 1932-47 of Francis Owen Bell, (Tour of Bagdogra, 7 Oct.1932), Mss Eur IOR Neg 11665, (APAC).

the rest were small village dispensaries scattered over the district, run with scanty funds from district board.[14] In 1940 the number of dispensaries rose in Darjeeling and Jalpaiguri to thirteen and twenty-eight respectively.[15] Nor did rural sanitation or water supplies fare any better. In 1935, the average district board in Bengal spent 2.7 percent of their income on water supply, 0.1 on drainage and 9.7 on sanitation including vaccination.[16]

In this respect, the plantations as well as the hill station of Darjeeling represented sites of special medical privilege, where preventive health and therapeutic care was better maintained than in the areas outside. In the hill station, there was provision for relatively clean piped water, sewage disposal and medicines and medical care were available. By the end of the mid-thirties, the Bengalis had appropriated the healthy hills-unhealthy plains dichotomy to the extent that apart from significant presence in Darjeeling itself, a tuberculosis sanatorium had been established in Kurseong.[17]

These trends were exacerbated after the Indian Independence. The hill station of Darjeeling survived as a health-resort, without the racial aspect. At the same time, the newly established Duars and Darjeeling Medical Association extended the exclusive medical facilities. The plantations as sites of industrial labour on the other hand, also received special protection from the government in the form of the Plantation Labour Act, 1951. Although its provisions were very imperfectly implemented, the PLA established the plantations as exclusive sites where workers

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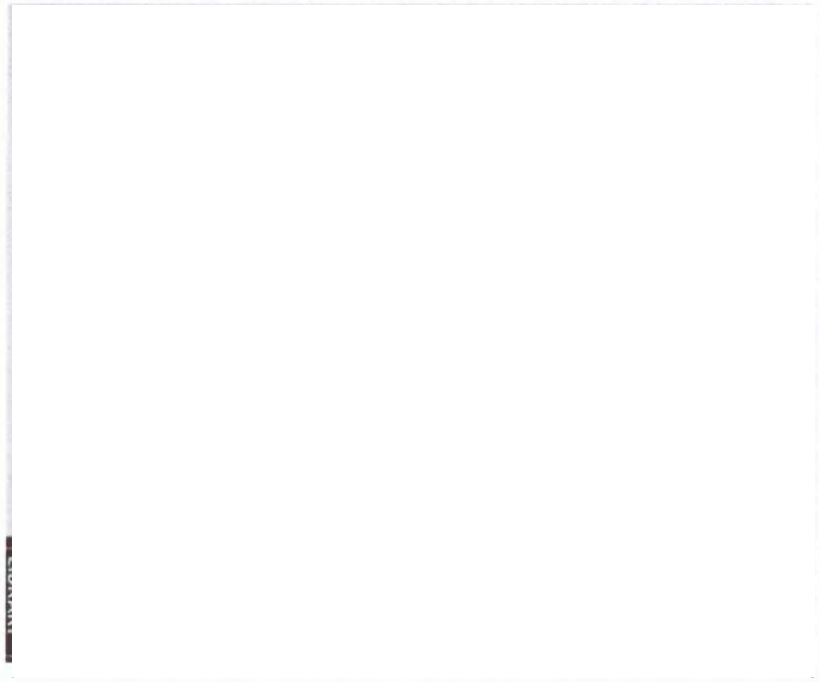
[14] *Annual Report on the Working of Hospitals and Dispensaries 1935,* pp. 52-3.
[15] *Triennial Report of the Working of Hospitals and Dispensaries in the Presidency of Bengal for the years 1938, 1939 and 1940*, Alipore, [check publication date], pp. 82-4 and 90-1.
[16] 'Resolution of the Public Health Report for the year 1935', Government of Bengal Proceedings, Local Self Government/Public Health, June 1937, No 1, IOR/P/12107, (APAC), p.7.
[17] The R.B.Dey Sanatarium was established as an extension of the Jadabpur Tuberculosis Hospital of Calcutta, with donation obtained from the Bengali philanthropist after whom it was named. See Arthur Jules Dash , *Bengal District Gazetteer: Darjeeling*, Alipore, 1947, p. 97.

were entitled to medical facilities and healthcare not provided for elsewhere in rural India.

Appendix

Picture 1. A Tea Plantation in Terai

Picture 2. Eden Sanitarium, Darjeeling



Picture 3. View of Jalapahar

Picture 4. Eden Sanitarium, Darjeeling

(All pictures courtesy APAC, British Library)

Bibliography

Unpublished Official Sources

Asia, Pacific& Africa Collections, British Library, London

Government of Bengal Proceedings and Consultations

Medical (1861-1890):

Municipal (Local Self Government/Local Boards, 1888-1935, Medical, 1892-1936,

Sanitation/Public Health, 1900-1937),

Public and Judicial Department Records (Miscellaneous, as cited in text)

National Archives of India, New Delhi

Government of India Proceedings,

Home:

Sanitary, Medical, Public, Judicial, (1900- 24)

Education, Lands and Health:

Health (1925- 42)

The National Archives, Kew

War Office, Colonial Office (Miscellaneous, as cited in text)

West Bengal State Archives, Kolkata

Government of Bengal Proceedings,

Local Self-Government:

Local Self Government/Local Boards, (1885-1937), Medical 1880-1920, Public Health (1921-1937)

General:

Sanitation (1869-1920)

The Wellcome Library, London

MS. 6933 (Scrapbook compiled by James Cantlie)

District Magistrate's Record Room, Darjeeling

General:

Settlement (1890-1896)

Terai Branch Indian Tea Association Office, Bengdubi

'History of the Terai Planters' Association and the Terai Branch Indian Tea Association', cyclostyled manuscript.

Private Papers

(Asia, Pacific and Africa Collections, British Library)

Mss Photo Eur 421, Mss Eur E 341, Mss Eur F/174, Mss Eur C474, Mss Photo Eur 275, Mss Eur E 279, Mss Eur B 411, Mss Eur R 187, Mss Eur /R 136, Mss Eur D 1023, Mss Eur IOR Neg 11665.

Published Official Sources

Annual Report of the Administration of the Plantation Labour Act 1951, Government of West Bengal, 1970-1972.

Annual Report of the Calcutta School of Tropical Medicine Institute of Hygiene and the Carmichael Hospital for Tropical Diseases, Calcutta School of Tropical Medicine Institute of Hygiene and the Carmichael Hospital for Tropical Diseases, 1920-1925.

Annual Report of the Director of Public Health for Bengal, Government of Bengal, Public Health Department, 1920-40.

Annual Report of the Sanitary Commissioner for Bengal, Government of Bengal, 1869-1910.

Annual Report on the Health of the Population of West Bengal, Government of West Bengal, 1948-1951.

Annual Report on the Working of Hospitals and Dispensaries under the Government of Bengal, 1930-1938.

Annual Report on the working of the Jalpaiguri Labour Act, 1914-1926.

Arbuthnott, J. C., *Report on the Conditions of Tea Garden Labour in the Duars of Bengal, in Madras, and in Ceylon,* Shilling, 1904.

Bentley, C.A., *Malaria and Agriculture in Bengal: How to Reduce Malaria in Bengal by Irrigation,* Government of Bengal, 1925.

Christophers, S. R. and Bentley, C.A, *Malaria in the Duars: being the second report to the advisory committee appointed by the Government of India to conduct an enquiry regarding blackwater and other fevers prevalent in the Duars*, Simla, 1911.

Christophers, S. R. and Bentley, C.A., *Scientific Memoirs Officers of the Medical and Sanitary Departments of the GOI, Being the first report to the advisory committee appointed by the GOI to conduct an enquiry regarding black-water and other fevers prevalent in the Duars,* Calcutta, 1909.

Christophers, S. R., *Enquiry On Malaria, Blackwater Fever and Anchylostomiasis in Singhbhum; Report no 1. Preliminary investigation into the conditions on the Bengal Iron Company's Mines at Manharpur, January 1923,* Patna, 1923.

Dash, Arthur Jules, *Bengal District Gazetteer: Darjeeling*, Alipore, 1947.

Detailed Report of the General Committee of the Dooars Planters Association, Dooars Planters Association, 1908-1952.

Detailed Report of the General Committee of the Indian Tea Association, Calcutta, 1893-1951.

Fry, A. B., *Second Report on Malaria in Bengal*, Calcutta, 1914.

Grunig, John F., *Eastern Bengal and Assam District Gazetteer,* Allahabad, 1911.

Hodgson, Brian, 'On the Colonization, Commerce, Physical Geography etc. of the Himalaya Mountains and Nepal', *Selections from Records of Government of Bengal*, No. 27-32 (National Archives of India, New Delhi).

Hunter, W. W., *A Statistical Account of Bengal, Vol.X., Districts of Darjiling and Jalpaiguri, &State of Kuch Behar,* London, 1861.

Imperial Gazetteer of India, Provincial Series, Bengal. Vol. 2, Calcutta, 1909.

James, S. P., 'Malaria In India', Scientific Memoirs by Officers of the Medical and Sanitary Department of the Govt Of India, New Series, No. 2, Calcutta, 1902.

Jones, E. Lloyd, *Standards of Medical Care for Tea Plantations in India: A Report Government of India*, Ministry of Labour, 1947.

Memorandum of the services of Dr A. Campbell, Bengal Medical Services, Supt of Darjeeling, and in charge of Political relations with Sikim, with official notices of the same, and a List of Papers on Statistical and other subjects contributed by him, and published in India, from 1833 to 1855, n.d., (APAC).

Milligan, J.A., *Final Report on the Survey and Settlement Reports in the Jalpaiguri District, 1906-1916*, Calcutta, 1919.

Mitra, A., *West Bengal Census 1951: District Handbook: Darjeeling*, Alipore, 1954.

Mitra, J. C., *Final Report on the Survey and Settlement Operations in the Darjeeling Terai, 1919-25*, Calcutta, 1927.

O'Malley, L. S. S., *Bengal District Gazetteers: Darjeeling*, Calcutta, 1907.

Rege, D. V., *Labour Investigation Committee: Report on an enquiry into conditions of labour in plantations in India,* Simla, 1946.

Report of Royal Commission on Labour in India, London with minutes of evidence, London, 1931.

Report of the Duars Committee, Shillong, 1910.

Report of the Labour Enquiry Commission, Calcutta, 1896.

Report of the Malaria Commission on its Study Tour in India Aug 23rd to Dec 28, 1929, Geneva, 1930.

Report of the Malaria Survey of the Jalpaiguri Duars, Government of Bengal, Public Health Department, Calcutta, 1926.

Report on Dargeeling, A Place In the Sikkim Mountains, Proposed As a Sanitarium, or Station of Health, Calcutta, 1830.

Special Report on the Working of Act I of 1882 in The Province of Assam During the Years 1886-1889, Calcutta, 1890.

Strickland, C., *Abridged Report on Malaria in the Assam Tea Gardens,* Calcutta 1929.

Summary of Proceedings of the second session of The Industrial Committee on Plantations Held at New Delhi on 31st March and 1st and 2nd April, 1948, n.d., (APAC).

Sunders D.H.E., F*inal Report on the Land Revenue Settlement of the Western Duars, Bengal*, Calcutta, 1895.

Tour[s] of H.E .the Right Hon Baron Carmichael of Skirling, Jalpaiguri, Oct 31st to Nov. 2nd, 1912, Calcutta, 1912-16.

Triennial Report of the Working of Hospitals and Dispensaries in the Presidency of Bengal for the years 1938, 1939 and 1940, Alipore, 1940.

Other Published Sources

Anonymous, *Notes on Tea In Darjeeling By a Planter,* Darjeeling, 1888,

Baildon, Samuel, *The Tea Industry: A Review of Finance and Labour, Guide for Capitalists and Assistants,* London, 1882,

Bald, Claud, *Indian Tea: Its Culture and Manufacture, Being A Text Book On The Cultivation and Manufacture of Tea,* Calcutta, 1917 (Third Edition).

Bamber, E.F, *An Account of the Cultivation and Manufacture of Tea in India, From Personal Observation,* Calcutta, 1866.

Bhanja, K.C., *Darjeeling At A Glance- A Handbook Descriptive and Historical of Darjeeling, Sikkim and Tibet with thrilling accounts of Everest and Kanchenjunga Expeditions by land and air*, Calcutta, 1942 (Second edition).

Bishop, S.O., *Medical Hints for the Hills,* Darjeeling, 1888.

Brown, Percy, *Tours in Sikhim and the Darjeeling District,* Calcutta, 1944 (Fourth edition).

Campbell, A., 'On the Lepchas', *The Journal of the Ethnological Society of London*, Vol.1, 1869, pp. 143-157.

Campbell, A., 'On the Tribes around Darjeeling', *Transactions of the Ethnological Society of London*, Vol.7, 1869, pp. 144-159.

Crawford, D.G, *Roll of the Indian Medical Service 1615-1930,* London, 1986 (First published 1930).

Darjeeling And Its Mountain Railway, A Guide and Souvenir, (first published 1921), Kolkata, 2002.

Dowling, A.F., *Tea Notes,* Calcutta, 1885.

Dozey, E.C., *A Concise History of The Dareeling District with a Complete Itinerary of Tours In Sikkim and the District*, Calcutta, 1922 (Second Edition).

Fletcher, David Wilson, *The Children of Kanchenjunga*, London, 1955.

Ghose, B.C., ' The Development of the Tea Industry in the District of Jalpaiguri: 1869-1968', *Jalpaiguri District Centenary Souvenir,* Jalpaiguri, 1970.

Ghose, B.C., *The Development of Tea Industry in the District of Jalpaiguri 1869-1968*, Jalpaiguri, 1970.

Ghosh, B.N., *A Treatise on Hygiene and Public Health, with Special Reference to the Tropics*, Calcutta, 1927 (Sixth edition).

Ghosh, Birendra Nath, *A Treatise on Hygiene and Public Health, with Special Reference to the Tropics*, Calcutta, 1930 (Seventh edition).

Giles, G.M., *Climate and Health in Hot Countries And The Outlines of Tropical Climatology: A Popular Treatise on Personal Hygiene in the Hotter Parts of the World, and on the Climates that will be with within them*, London, 1904.

Hanley, Maurice P., *Tales and Songs from An Assam Tea Garden*, Calcutta and Simla, 1928.

Hathorn, F. G., *A Handbook of Darjeeling: with brief notes on the culture and manufacture of tea, and rules for the sale of unassessed waste lands*, Calcutta, 1863

Hehir, Patrick, *Malaria In India*, Oxford, 1927.

Hooker, Joseph Dalton, *Himalayan Journals: Notes of a Naturalist in Bengal Sikkim and Nepal Himalayas etc.,* New Delhi, 1999 (First published in London in 1854).

Indian Tea Planters' Association Golden Jubilee Souvenir, Jalpaiguri, 1965.

Keble, J. A., *Darjeeling Ditties and other poems: A Souvenir*, Calcutta, 1908.

Louis, J. A. H, *The Gates of Thibet-:A Bird's Eye View of Independent Sikkhim, British Bhootan and the Dooars As A Doorga Poojah Trip* ,Calcutta, 1894.

Minney, R.J., *Midst Himalayan Mists*, Calcutta, 1920.

Mitra, A, *The Tribes and Castes of West Bengal*, Alipore, 1953.

Newman's Guide to Darjeeling and neighbourhood: a historical and descriptive handbook etc., Calcutta, 1927 (Eighth edition).

O'Brien, R. D., *Darjeeling: The Sanitarium of Bengal, And Its Surroundings,* Calcutta, 1883.

Pearson, J. T., *Note on Darjeeling,* Darjeeling, 1839.

Pinn, Fred, *The Road of Destiny: Darjeeling Letters, 1839,* Calcutta, 1996.

Rennie, David Fields, *Bhootan and the story of the Dooar War: Including a three months residence in the Himalayas etc.,* London, 1866.

Risley, H. H, *The Caste and Tribes of Bengal*, Vol. 2, Calcutta, 1998, (First published in 1892).

Ross, Ronald and Bruce- Chwatt, L. J., *The Great Malaria Problem and Its Solution: From the Memoirs of Ronald Ross With an introduction by L J Bruce-Chwatt*, London, 1988.

Ross, Ronald, 'Medical Science and the Tropics', *Bulletin of the American Geographical Society,* Vol. 45, No. 6, 1913, pp. 435-438.

Ross, Ronald, *Malaria – Control in Malaya and Assam: A Visit of Inspection, 1926-1927,* n.d., (Wellcome Library).

Ross, Ronald, *Memoirs: With A Full Account of The Great Malaria Problem And Its Solution*, London, 1923.

Roy, Naresh Chandra, *Rural Self-Government in Bengal*, Calcutta, 1936.

Roy, Sarat Chandra, *The Oraons of Chota Nagpur: Their History, Economic Life, and Social Organization*, Ranchi, 1915.

Sankritayan, Rahul, *Dorjeling Paricaya*, Calcutta, 1950.

Sanyal, Sri Harimohan, *Darjeelinger Itihas,* Calcutta, 2005 (First published in 1880).

Symington, John, *In a Bengal Jungle, Stories of life on the tea gardens of northern India*, Chapel Hill, 1935.

Tea Districts Labour Association, *Handbook of Castes and Tribes Employed on Tea Estates in North East India*, Calcutta, 1924.

The Dorjeeling Guide; including a description of the country, and of its climate, soil and productions with Travelling Directions etc., Calcutta, 1845.

Contemporary Journals

Biographical Memoirs of Fellows of the Royal Society

British Medical Journal

Indian Journal of Medical Research

Indian Medical Gazette

Indian Medical Record

Journal of the Agricultural and Horticultural Society of India

Journal of the Society of Arts

Journal of the Statistical Society of London

Obituary Notices of Fellows of Royal Society

The Bengalee

The Indian Planters' Gazette and Sporting News

The Journal of the Anthropological Institute of Great Britain and Ireland

The Journal of the Darjeeling Natural History Society

The Journal of the Ethnological Society of London

The Lancet

The Tea and Coffee Trade Journal

Transactions of the Ethnological Society of London

Secondary Sources

Aiken, S. Robert 'Early Penang Hill Station', *Geographical Review,* Vol. 77, 1987, pp. 421-439.

Alatas, Syed Hussein, *The Myth of the Lazy Native: A study of the image of Malays, Filipinos and Javanese from the 16th to the 20th century and its function in the ideology of colonial capitalism*, London, 1977.

Anderson, Warwick, ' "Where Every Prospect Pleases and Only Man Is Vile": Laboratory Medicine as Colonial Discourse', *Critical Inquiry*, Vol.18, 1992, pp. 506-529.

Anderson, Warwick, 'Immunities of Empire: Race, Disease and the New Tropical Medicine, 1900-1920', *Bulletin of the History of Medicine*, Vol. 70, 1996, pp. 94-118.

Anderson, Warwick, *The Cultivation of Whiteness: Science, Health and Racial Destiny in Australia,* Melbourne, 2002.

Arnold, David (ed.), *Imperial Medicine and Indigenous Societies*, Manchester; New York, 1988.

Arnold, David (ed.), *Warm Climates, Western Medicine The Emergence of Tropical Medicine, 1500-1900*, Amsterdam, 1996.

Arnold, David, 'Medical Priorities and practice in nineteenth century British India', *South Asia Research,* Vol. 5, 1985, pp. 167-183.

Arnold, David, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, Berkeley, Los Angeles; London, 1994.

Arnold, David, *The Tropics and the Traveling Gaze: India, Landscape, and Science 1800-1856*, Delhi, 2005.

Bagchi, Amiya Kumar and Soman, Krishna (ed), *Maladies, Preventives and Curatives: Debates in Public Health in India*, New Delhi, 2005.

Bagchi, Amiya Kumar, 'Colonialism and the Nature of "Capitalist" Enterprise in India', in *Capital and Labour Redefined: India and the Third World,* London, 2002, pp. 91-136.

Bagchi, Amiya, *Private Investment in India, 1900-1939*, London, 2000 (First published in 1972).

Bala, Poonam, *Imperialism and medicine in Bengal: a socio-historical perspective*, New Delhi, 1991.

Basu, Subho, *Does Class Matter? Colonial Capital and Workers' Resistance in Bengal 1890-1937*, New Delhi, 2004.

Basu, Swaraj, *Dynamics of a caste movement: the Rajbansis of North Bengal, 1910-1947*, New Delhi, 2003.

Bates, Crispin, 'Coerced and Migrant Labourers in India: The Colonial Experience', *Edinburgh Papers in South Asian Studies,* No. 13, Edinburgh, 2000.

Behal, Rana P., 'Wage Structure and Labour: Assam Valley Tea Plantations, 1900-1947' (http://www.indialabourarchives.org/publications/Rana_P_behal.htm).

Bhadra, Mita and Bhadra, R. K (ed.), *Plantation labours of North-East India*, Dibrugarh, 1997.

Bhadra, Mita, *Women workers of tea plantations in India*, New Delhi, 1992.

Bhattacharya, Sanjoy, Harrison, Mark and Worboys, Michael, *Fractured States: Smallpox, Public Health and Vaccination Policy in British India 1800-1947*, Hyderabad, 2005.

Bhowmik, Sharit *Class Formation in the Plantation System*, New Delhi, 1981

Biswas, Ratan, '*Bangla Sahitye Darjeeling Jela,' Madhuparni: Bishesh Darjeeling Sankhya,* Calcutta 1996, pp. 369-75.

Blakeney, T. S., 'A. R. Hinks and the First Everest Expedition, 1921', *The Geographical Journal,* Vol. 136, 1970, pp. 333-343.

Bose, Sugata, *Peasant Labour and Colonial Capital: Rural Bengal Since 1770,* Cambridge, 1993.

Bradley, D.J., 'Watson, Swellengrengrebel and Species Sanitation: Environmental and Ecological Aspects', *Parassitologia* Vol. 36, 1994, pp. 137-147.

Breman, Jan, *Taming the coolie beast: plantation society and the colonial order in Southeast Asia*, Delhi; Oxford, 1989.

Brockway, Lucile H., *Science and Colonial Expansion: The Role of the British Royal Botanic Gardens*, New York, London, Toronto, Sydney San Francisco, 1979.

Bryder, Linda, *Below The Magic Mountain: A Social History of Tuberculosis in Twentieth –Century Britain,* Oxford, 1988.

Burke, Peter, 'The Invention of Leisure in early modern Europe', *Past and Present,* No. 146, 1995, pp. 136-150.

Bynum, W. F., 'Reasons for contentment; malaria in India, 1900-1920,' *Parassitologia,* No. 40, 1998, pp. 107-121.

Caplan, Lionel, 'Bravest of the Brave: Representations of the Gurkha in British Military Writings', *Modern Asian Studies,* Vol. 25, pp. 571-98.

Cell, John W., 'Anglo-Indian Medical Theory and the Origins of Segregation in West Africa', *The American Historical Review,* Vol. 91, 1986, pp. 307-335.

Chakrabarti, Kamakhya Prasad, 'Cha-Shilper Goda Pottone Bangali Uddogider Bhumika', *Kirat Bhumi: Jalpaiguri Jela Sankalan*, Jalpaiguri, 1998, pp. 233-240.

Chakrabarty, Dipesh, *Rethinking Working Class History, Bengal 1890 to 1940*, Princeton, 2000 (First published in 1989).

Chakraborty, Kamakhya Prosad, *Shekaler Jalpaiguri Shohor Ebong Samajik Jibaner Kichu Katha*, Jalpaiguri, n.d.

Chandavarkar, Rajnarayan, *The Origins of Industrial Capitalism in India: business strategies and the working classes in Bombay, 1900-1940*, Cambridge, 1994.

Chatterjee, Joya, 'The Fashioning of a Frontier: The Radcliffe Line and Bengal's Border Landscape, 1947–52,' *Modern Asian Studies*, Vol. 33, 1999, pp. 185-242.

Chatterjee, Partha, *A Princely Imposter? The Kumar of Bhawal & the Secret History of Indian Nationalism*, Delhi, 2004. (First published in 2002).

Chatterjee, Piya, *A Time for Tea: Women, Labor, and Post/Colonial Politics on an Indian Plantation*, Durham and London, 2001.

Chaudhary, Shankar Rai, 'Cha-Baganer Babuder Sanskriti', Gautam Rai,(ed.) *Uttar Banger Janajati O Luptapray Lok Sanskriti,* Siliguri, 2004, pp. 179-187.

Chaudhury, Asim *Enclaves in a peasant society: political economy of tea in Western Dooars in northern Bengal*, New Delhi, 1995.

Chaudhury, Samrat and Varma, Nitin, ' Between Gods/Goddesses/ Demons and 'Science': Perceptions of Health and Medicine among Plantation Labourers in Jalpaiguri District, Bengal', *Social Scientist*, Vol.30, 2002, pp. 18-38.

Chaudhury, Samrat and Varma, Nitin, 'Between Gods/Goddesses/ Demons and 'Science': Perceptions of Health and Medicine among Plantation Labourers in Jalpaiguri District, Bengal', *Social Scientist*, Vol. 30, 2002.

Cohn, Bernard S., 'The British in Benares: A Nineteenth Century Colonial Society', Cohn, Bernard S., *An Anthropologist Among the Historians and Other Essays*, Delhi, 1987, pp. 422-62.

Copland, Ian, *The British Raj and the Indian Princes: Paramountcy in Western India; 1857-1930*, London, 1982.

Curtin, P. D., *Death By Migration: Europe's Encounter with the Tropical World in the Nineteenth Century*, Cambridge, 1989.

Daniel, E. Valentine, Bernstein, Henry and Brass, Tom, *Plantations, Proletarians, and Peasants in Colonial Asia*, London, 1992.

Das Gupta, Ranajit, *Economy, Society, and Politics in Bengal: Jalpaiguri 1869-1947*, Delhi, 1992.

Das Gupta, Ranajit, *Labour and working class in eastern India: studies in colonial history*, Calcutta, 1994.

Dasgupta, Atis, 'Ethnic Problems and Movements for Autonomy in Darjeeling', *Social Scientist*, Vol. 27, 1999, pp. 47-68.

de Haan, Arjaan, *Unsettled Settlers: Migrant workers and industrial capitalism in Calcutta,* Calcutta, 1994.

Digby, Anne, *Making a Medical Living: Doctors and Patients in the English Market for Medicine 1720-1911*, Cambridge, 1994.

Ernst, Waltraud and Harris, Bernard, *Race, Science, and Medicine, 1700-1960*, London; New York, 1999.

Fett, Sharla M., *Healing, Health, and Power on Southern Slave* Plantations, Chapel Hill; London, 2002.

Fisher, Michael, *Indirect Rule in India: Residents and the Residency System-1764-1857,* Delhi; New York, 1991.

Forrest, Denys Mostyn, *Tea for the British: The social and economic history of a famous trade*, London, 1973.

Fox, Jennifer, *In the Shade of Kanchenjunga*, London, 1993.

Gangopadhyaya, Dvarkanatha, *Slavery in British Dominion,* Calcutta, 1972.

Goswami, Omkar, ''*Sahibs*, *Babus*, and *Banias*: Changes in Industrial Control in Eastern India, 1918-50', *The Journal of Asian Studies*, Vol. 48, 1989, pp. 289-309.

Griffiths, Percival, *A History of the Indian Tea Industry*, London, 1967.

Grove, Richard H., *Green Imperialism: Colonial Expansion, Tropical Islands and the Origins of Environmentalism, 1600-1800,* Cambridge, 1995.

Guha, Amalendu, *Planter-Raj to Swaraj: Freedom Struggle and Electoral Politics in Assam 1826-1947*, New Delhi, 1977.

Harrison, Gordon, *Mosquitoes, Malaria and Man: A History of the Hostilities Since 1880*, London, 1978.

Harrison, Mark, '"Hots Beds of Disease": malaria and civilization in nineteenth-century British India', *Parassitologia*, Vol.40, 1988, pp. 11-18.

Harrison, Mark, '"The Tender Frame of Man": Disease, Climate and Racial Difference in India and the West Indies, 1760-1860', *Bulletin of the History of Medicine*, Vol. 70, pp. 68-93.

Harrison, Mark, 'Medicine and the Culture of Command: the case of Malaria Control in the British Army during the two World Wars', *Medical History*, Vol. 40, 1996, pp. 437-52.

Harrison, Mark, 'Tropical Medicine in Nineteenth Century India', *British Journal of History of Science,* Vol. 25, 1992, pp. 299-318.

Harrison, Mark, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850*, New Delhi; Oxford, 1999.

Harrison, Mark, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge, 1994.

Haynes, Douglas M., *Imperial Medicine: Patrick Manson and the Conquest of Tropical Disease,* Philadelphia, 2001.

Headrick, Daniel R., *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940* , New York; Oxford, 1988.

Headrick, Daniel R., *The tools of empire: technology and European imperialism in the nineteenth century*, New York; Oxford, 1981.

Isaacs, Jeremy D., ' D. D. Cunningham and the Aetiology of Cholera in British India, 1869-1897,' *Medical History,* Vol.42, 1998, pp. 279-305.

Jaggi, O. P., *Medicine in India: Modern Period*, New Delhi, 2000.

Jones, Margaret, *Health policy in Britain's model colony: Ceylon (1900-1948)*, Hyderabad, 2004.

Joshi, Chitra, *Lost Worlds: Indian Labour and its Forgotten Histories*, Delhi, 2003.

Kanwar, Pamela, 'The Changing Profile of the Summer Capital of British India: Simla 1864-1947', *Modern Asian Studies*, Vol. 18, 1984, pp. 215-236.

Kanwar, Pamela, *Imperial Simla: The Political Culture of the Raj,* Delhi, 1990.

Karotemprel, Sebastian and Dutta Roy, B. (eds.), *Tea Gardens Labourers of North East India: A Multi-Dimensional Study*, Shillong, 1990.

Kennedy, Dane, *The Magic Mountains: Hill Stations and the British Raj*, Delhi, 1996.

Kenny, Judith T., 'Climate, Race, and Imperial Authority: The Symbolic Landscape of the British Hill Station in India', *Annals of the Association of American Geographers*, Vol. 85, 1995), pp. 694-714.

King, Anthony D., *Colonial Urban Development: Culture, social power and environment*, London: Henley and Boston, 1976.

Klein, Ira, 'Death in India: 1871-1921', *Journal of Asian Studies,* Vol. 32, 1973, pp. 639-659.

Klein, Ira, 'Development and Death: Reinterpreting malaria, economics and ecology in British India', *Indian Economic and Social History Review*, No. 38, 2001, pp. 147-179.

Kosambi, Meera and Brush, John E., 'Three Colonial Port Cities in India', *Geographical Review*, Vol. 78, 1988, pp. 32-47.

Kumar, Anil, *Medicine and the Raj: British Medical Policy in India 1835-1911,* New Delhi; London, 1998.

Kumar, Deepak, *Science and the Raj,* Delhi, 1995.

Livingstone, David N., 'Tropical climate and moral hygiene: the anatomy of a Victorian debate' *British Journal of History of Science*, Vol. 32, 1999, pp. 93-110.

Livingstone, David N., *Putting Science in its Place: Geographies of Scientific Knowledge*, Chicago; London, 2003.

Mackenzie, John M. (ed.), *Imperialism and the natural world*, Manchester; New York, 1990.

MacLeod, Roy M., 'Scientific Advice for British India: Imperial Perceptions and Administrative Goals, 1898-1923', *Modern Asian Studies,* Vol. 9, 1975, pp. 343-384.

Manderson, Lenore, *Sickness and the state: health and illness in colonial Malaya, 1870-1940*, New York, 1996.

Marshall, P.J., 'The White Town of Calcutta under the Rule of the East India Company,' *Modern Asian Studies,* Vol. 34, 2000, pp. 307-331.

Mazumdar, Rajit K, *The Indian Army and the Making of Punjab,* Delhi, 2003.

Mendelsohn, J. Andrew, 'From Eradication to Equilibrium: How Epidemics Became Complex after World War I', Lawrence, Christopher and Weisz, George (eds.), *Greater Than The Parts: Holism in Biomedicine 1920-1950*, New York; Oxford, 1998, pp. 303-331.

Meyer, E., '"Enclave" Plantations, " Hemmed-in" Villages and Dualistic Representations in Colonial Ceylon,' *The Journal of Peasant Studies*, Vol. 19, 1992, pp. 199-228.

Mintz, Sidney, *Sweetness and Power: The Place of Sugar in Modern History*, New York, 1985.

Mohapatra, Prabu, 'Coolies and Colliers: A Study of the Agrarian Context of. Labour Migration from Chota Nagpur, 1880–1920', *Studies in History,* Vol.1, 1985, pp. 247-303.

Mukherjee, Abhijeet, ' The Peruvian Bark Revisited : A Critique of British Cinchona Policy in Colonial India', *Bengal Past and Present,* Vol. 117, 1998, pp. 81-102.

Mukherjee, S., 'Emergence of Bengalee Entrepreneurship in Tea Plantation in a Bengal District, 1879-1933', *Indian Economic and Social History Review*, Vol. 13, 1972, pp. 487-512.

Mukherjee, Sibsankar, ' Changing Control in Some Selected Tea Producing Companies of Jalpaiguri Town,' *Social Scientist*, Vol. 6, 1978, pp. 57-69.

Navjeevan Hospital and Rural Health Care Centre, Darjeeling, 2003.

Oldenburg, Veena, *The Making of Colonial Lucknow,* Princeton, 1984.

Pemble, John, *The Invasion of Nepal: John Company at War*, Oxford, 1971.

Pettigrew, Jane, *A Social History of tea*, London, 2001.

Philip, Kavita, *Civilising Natures: Race, Resources And Modernity in Colonial South India,* Hyderabad, 2003.

Pinn, Fred, *The Road of Destiny: Darjeeling Letters, 1839,* Calcutta, 1996.

Power, Helen J., *Tropical Medicine In the Twentieth Century: A History of the Liverpool School of Tropical Medicine, 1898-1990*, London; New York, 1999.

Power, Helen, 'The Calcutta School of Tropical Medicine: Institutionalizing medical Research in the Periphery', *Medical History,* 1996, Vol. 40, pp. 197-214.

Pradhan, Kumar, *The Gorkha Conquests: The Process and Consequences of the Unification of Nepal, with particular reference to Eastern Nepal*, Calcutta, 1991.

Pradhan, Queeny, 'Empire in the Hills: The Making of Hill Stations in Colonial India', *Studies in History*, Vol. 23, 2007, pp. 33-82.

Ray, Kabita, *History of Public Health: Colonial Bengal, 1921-1947*, Calcutta, 1998.

Ray, Rajat K, 'The Crisis of Bengal Agriculture, 1870-1927-the Dynamics of Immobility', *Indian Economic and Social History Review*, Vol. 10, 1973, pp. 244-279.

Ray, Subhajyoti, *Transformations on the Bengal Frontier: Jalpaiguri,1765-1948*, London, 2002.

Regmi, D. R., *Modern Nepal: Rise and Growth in the Eighteenth Century*, Calcutta, 1975.

Renford, Raymond K., *The Non-Official British in India to 1920,* Delhi, 1987.

Rosenberg, Charles E. and Golden, Janet, *Framing Disease: Studies in Cultural History,* Rutgers, 1992.

Rothermund, Dietmar and Wadhwa, D. C. (eds.), *Zamindars, Mines and Peasants, Studies in the History of an Indian Coalfield and its Rural Hinterland*, Delhi, 1978.

Rupke, Nicolaas, *Medical geography in historical perspective*, London, 2000.

Said, Edward, *Orientalism* , London, 1995.

Samanta, Arabinda, *Malarial Fever in colonial Bengal*: *Social History of An Epidemic, 1820-1939,* Kolkata, 2002.

Sanyal, Charu Chandra, *The Meches and the Totos: Two Sub- Himalayan Tribes of North Bengal*, Darjeeling, 1973.

Sarkar, R.L. and Lama, Mahendra P. (eds.), *Tea Plantation Workers in the Eastern Himalayas- A Study on Wages, Employment and Living Standards,* Delhi, 1986.

Sarkar, Sumit, *Writing Social History*, Oxford, 1997.

Schenk-Sandbergen, Loes and Choudhury, Niren, *From Heroines to Beneficiaries; From Beneficiaries to Heroines?The impact of a small-scale irrigation project on gender in the West Bengal Terai*, Delhi, 2003.

Sen, Arnab and Ghosh, Brajagopal, *Jalpai-Duarser Jalchhabi,* Alipurduar, 2004.

Sen, Jahar, *Darjeeling: A Favoured Retreat,* New Delhi, 1989.

Sharma, Jayeeta, 'An European tea 'garden' and an Indian 'frontier': the discovery of Assam', Occasional paper No. 6, University of Cambridge, Centre for South Asian Studies, Cambridge, 2002.

Shlomowltz, Ralph and Brennan, Lance, 'Mortality and migrant labour in Assam, 1865-1921', *Indian Economic & Social History Review,* Vol. 27, 1990, pp. 85-110.

Sinha, Sandeep, *Public Health Policy and the Indian Public: Bengal, 1850-1920,* Calcutta, 1998.

Soma, Hewa, *Colonialism, tropical disease, and imperial medicine: Rockefeller philanthropy in Sri Lanka,* Lanham, 1995.

Stokes, Eric, *The English Utilitarians and India,* Oxford, 1959.

Subba, Tanka Bahadur, *Dynamics of a Hill Society: The Nepalis in Darjeeling and Sikkim Himalayas*, Delhi, 1989.

Subba, Tanka Bahadur, *The Quiet Hills: A Study of the Agrarian Relations in Hill Darjeeling*, Delhi, 1985.

Taylor, Jeremy, *Hospital and Asylum Architecture in England 1840-1914: Building for Health Care,* London; New York, 1991.

Tinker, Hugh, *The Foundations of Local Self-Government in India, Pakistan and Burma*, London, 1968.

Vaughan, Megan, *Curing their ills: colonial power and African illness*, Oxford, 1991.

Waddington, Keir, *Charity and the London Hospitals: 1850-1898*, Woodbridge and Rochester, 2000.

Watts, Sheldon, ' British Development Policies and Malaria in India 1897-c.1929', *Past and Present,* No. 165, 1999, pp. 141-181.

Unpublished dissertations and manuscript copy and seminar paper

Kazi, Ihtesham, ' Malaria in Bengal from 1860 to 1920: a historical study in a colonial setting,' Unpublished Ph.D. Dissertation, University of Michigan, 1986.

Mackay, Alex, 'Footprints Remain: the introduction of Western medicine into the Indo-Tibetan Himalayas, 1870-1970', Manuscript Copy.

Mukherjee, Abhjit, 'Natural Science in Colonial Context: The Calcutta Botanic Garden and the Agri-Horticultural Society of India, 1787-1870', Ph.D. Dissertation, Jadavpur University, Calcutta, 1996.

Power, Helen J., 'Sir Leonard Rogers FRS (1868-1962): tropical medicine in the Indian Medical Service' Doctoral Thesis, University of London, 1993.

Tilley, Helen, 'Africa as a "Living Laboratory": The African Research Survey and the Colonial Empire: Consolidating Environmental, Medical and Anthropological Debates, 1920-1940', D.Phil. Dissertation, University of Oxford, 2001.

Interview

Interview with Dr. D. N. Chatterjee, 5 April 2005